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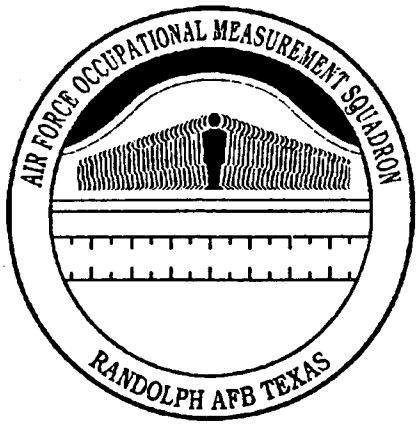

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

ELECTRICAL POWER PRODUCTION

AFSC 3E0X2

AFPT 90-542-987

NOVEMBER 1994

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
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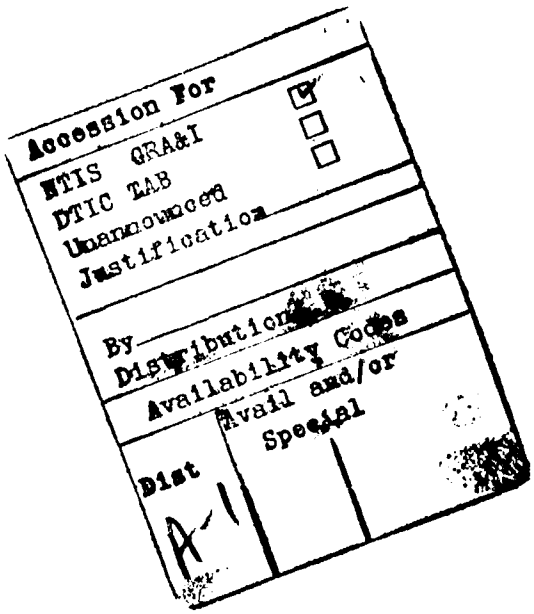

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PREFACE

This report presents the results of an Air Force occupational survey of the AFSC 3E0X2, Electrical Power Production, career ladder (formerly AFSC 542X2). Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Mr. Don Cochran, Inventory Development Specialist, developed the survey instrument; Mrs. Joan Brooks, Occupational Analyst, analyzed the data and wrote the final report. Mrs. Becky Hernandez provided computer programming support, and Mr. Richard Ramos provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB, Texas 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. *Survey Coverage*: The Electrical Power Production (AFSC 3E0X2) career ladder was surveyed to obtain current job and task data for use in updating career ladder training documents and the technical school training program. Survey results are based on data collected from 1,041 AFSC 3E0X2 personnel. This represents 60 percent of the total assigned population.

2. *Specialty Jobs*: Structure analysis of the AFSC 3E0X2 data identified 11 jobs. Nine of the jobs were directly involved in performing technical duties pertaining to maintenance of generator sets, aircraft arresting systems, and the performance of mobility and contingency functions. The two remaining jobs involved Supervision and Training.

3. *Career Ladder Progression*: Normal career ladder progression within the AFSC 3E0X2 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving maintenance of electrical power generation and distribution equipment and aircraft arresting barriers. At the 5-skill level, personnel are still heavily involved with electrical power production equipment maintenance, but begin to become involved with the nonmaintenance jobs such as training and supervision. Seven-skill level personnel reflect a shift toward supervisory and management work, although 56 percent are still involved with performing technical tasks.

4. *AFMAN 36-2108 Specialty Descriptions*: The 3- and 5-skill level Specialty Descriptions in AFMAN 36-2108 provide a broad and generally accurate description of the technical job for Electrical Power Production personnel. The 7-skill level Description accurately reflects the added supervisory, directing, and inspection functions at that level, as well as the continued performance of technical functions.

5. *Job Satisfaction Analysis*: In general, job satisfaction among AFSC 3E0X2 personnel is fairly high with no serious satisfaction problems noted. Personnel working in the Generator Sets Maintenance job had the lowest job satisfaction of any jobs identified.

6. *Implications*: The current AFSC 3E0X2 career ladder structure reflects a modestly diverse career ladder structure. Eight jobs were identified which involved electrical power production maintenance. In addition to these eight jobs, three other jobs were identified: Mobility and Contingency Operations, Supervision, and Training. *AFMAN 36-2108 Specialty Descriptions* broadly describes the maintenance jobs and tasks being performed. Job satisfaction is fairly high among career ladder incumbents. A detailed analysis of the Specialty Training Standard and Plan of Instruction will be performed at a later date.

OCCUPATIONAL SURVEY REPORT (OSR)
ELECTRICAL POWER PRODUCTION CAREER LADDER
(AFSC 3E0X2)

INTRODUCTION

This is a report of an occupational survey of the Electrical Power Production career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was conducted to obtain current job and task data. Data collected through this OSR will be utilized by training development personnel to review courses and related training documents in light of equipment and utilization changes which have occurred since the last OSR in 1985.

Background

As described in the *AFMAN 36-2108 Specialty Descriptions* for AFSC 3E0X2, 3- and 5-skill level members are responsible for installing and operating electrical power plants, distribution equipment, and aircraft arresting barriers. They maintain, inspect, repair, and modify electrical power generation and distribution equipment, and aircraft arresting barriers. They also maintain operation, inspection, and maintenance records. Seven-skill level craftsmen perform many of the same kinds of tasks as 3- and 5-skill level personnel, but also perform supervisory duties as well as administrative and supply functions necessary to manage a shop. Seven-skill level technical personnel are more likely to advise on problems with installing and repairing electrical power production equipment and aircraft arresting barriers; inspecting and analyzing electrical power production equipment and aircraft arresting barriers; and determining repair procedures necessary to correct defective equipment. Seven-skill level supervisors plan, schedule, evaluate, and supervise electrical power production activities and perform technical review of electrical power production functions.

Initial 3-skill level training for AFSC 3E0X2 personnel is currently provided through an 8-week, 3-day course at Sheppard AFB TX. This course covers such topics as fundamentals of gasoline and diesel engines; hydraulic and heat transfer principles; basic electricity and electronic applications; power generating system maintenance to include engine and control system components, electric generators, electrical switchgear components, and power plant auxiliary equipment; use of wiring diagrams to troubleshoot and locate defective components; single and parallel unit operation of prime power plants and standby emergency generators; and operation and maintenance of aircraft arresting barriers.

Entry into the career ladder currently requires Armed Forces Vocational Aptitude Battery minimum scores of 57 Mechanical, 43 Electronic, and strength factor of K (70 lbs).

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-542-987, dated November 1992. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications and directives and the previous JI and OSR. This task list was further refined and validated through personal interviews with 61 subject-matter experts representing a variety of major commands (MAJCOMs) at the following locations:

BASE	UNIT VISITED
Sheppard AFB TX	3770th Technical Training Squadron 3750th Civil Engineering Squadron
Tyndall AFB FL	325th Civil Engineering Squadron OL-D, AFCESA/CEMIRT AFCESA
Holloman AFB NM	49th Bare Base Maintenance Squadron 49th Civil Engineering Squadron
Eglin AFB FL	3202d Civil Engineering Squadron
Hurlburt Fld FL	823d Red Horse Civil Engineering Squadron
Cheyenne Mountain AFB CO	721st Civil Engineering Squadron
Tinker AFB OK	2854th Civil Engineering Squadron 33d Combat Communications Squadron OL-LJ, SM-ALC
Nellis AFB NV	820th Red Horse Civil Engineering Squadron 558th Civil Engineering Squadron

The resulting JI contained a comprehensive listing of 1,032 tasks grouped under 24 duty headings, with a background section requesting such information as grade, MAJCOM, job title, time in present job, time in service, job satisfaction, aircraft arresting systems maintained, switchgear maintained, generator sets maintained, contingency team assigned, and forms used.

Survey Administration

Military Personnel Flights at operational bases worldwide administered the inventory to 1,559 DAFSC 3E0X2 personnel holding a 3-, 5-, or 7-skill level. Personnel excluded from taking the survey comprised the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Military Personnel Center.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, respondents then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job. First, the ratings are summed. Each task rating is then divided by the sum of task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 3E0X2 survey sample includes responses from 1,041 job incumbents. Table 1 reflects the distribution, by MAJCOM, of assigned AFSC 3E0X2 personnel as of May 1993. The 1,041 respondents in the final sample represent 60 percent of all assigned AFSC 3E0X2 personnel. Table 2 reflects the distribution by paygrade. As shown by both tables, the survey sample accurately reflects the overall AFSC 3E0X2 population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 3E0X2 personnel

TABLE 1

MAJCOM REPRESENTATION OF SURVEY SAMPLE

MAJCOM	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
ACC	34	35
PACAF	17	15
USAFE	13	12
AMC	9	9
AFSPACECOM	9	12
AFMC	8	9
AETC	5	5
OTHER	5	3

TOTAL ASSIGNED = 1,734
TOTAL SURVEYED = 1,559
TOTAL IN SAMPLE = 1,041
PERCENT OF ASSIGNED IN SAMPLE = 60%
PERCENT OF SURVEYED IN SAMPLE = 67%

* As of May 1992

TABLE 2

PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	25	26
E-4	23	23
E-5	24	24
E-6	17	17
E-7	11	10
E-8	**	**

* As of May 1992
** Less than 1 percent

(generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. TD data were independently collected from 52 experienced 7-skill level personnel stationed worldwide. Interrater reliability was calculated and found acceptable. Ratings were standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale from no training required to extremely high amount of TE. TE is a rating of which tasks require emphasis in structured training for first-term personnel. Structured training is defined as training provided by resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal on-the-job training (OJT), or any other organized training method. TE data were independently collected from 39 experienced 7-skill level personnel stationed worldwide. As with TD ratings, the interrater reliability was computed and found to be acceptable, indicating there was sufficient agreement among raters as to which tasks require some form of structured training. In this specialty, tasks have an average TE rating of 2.32. Tasks rated high in TE have a rating of 5.18 and above. As was discussed in the TD section above, TE data may also be used to rank order tasks, indicating those tasks which senior noncommissioned officers (NCOs) in the field consider the most important for first-enlistment airmen to be trained to perform.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide good insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Electrical Power Production career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a job. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to the initial group, or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

When there is a substantial degree of similarity between jobs, they are grouped together and identified as a cluster. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), *AFMAN 36-2108 Specialty Descriptions*, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, 11 jobs were identified within the AFSC 3E0X2 survey sample. A listing of these jobs is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

I. Generator Set Maintenance (STG060, N=172)

II. Generator Set Maintenance and Mobility Operations (STG157, N=163)

III. Generator Set and Gas Turbine Maintenance (STG213, N=9)

IV. Generator Set and Auxiliary Equipment Systems Maintenance (STG234, N=111)

V. Generator Set and Gasoline and Diesel Engine Maintenance (STG104, N=74)

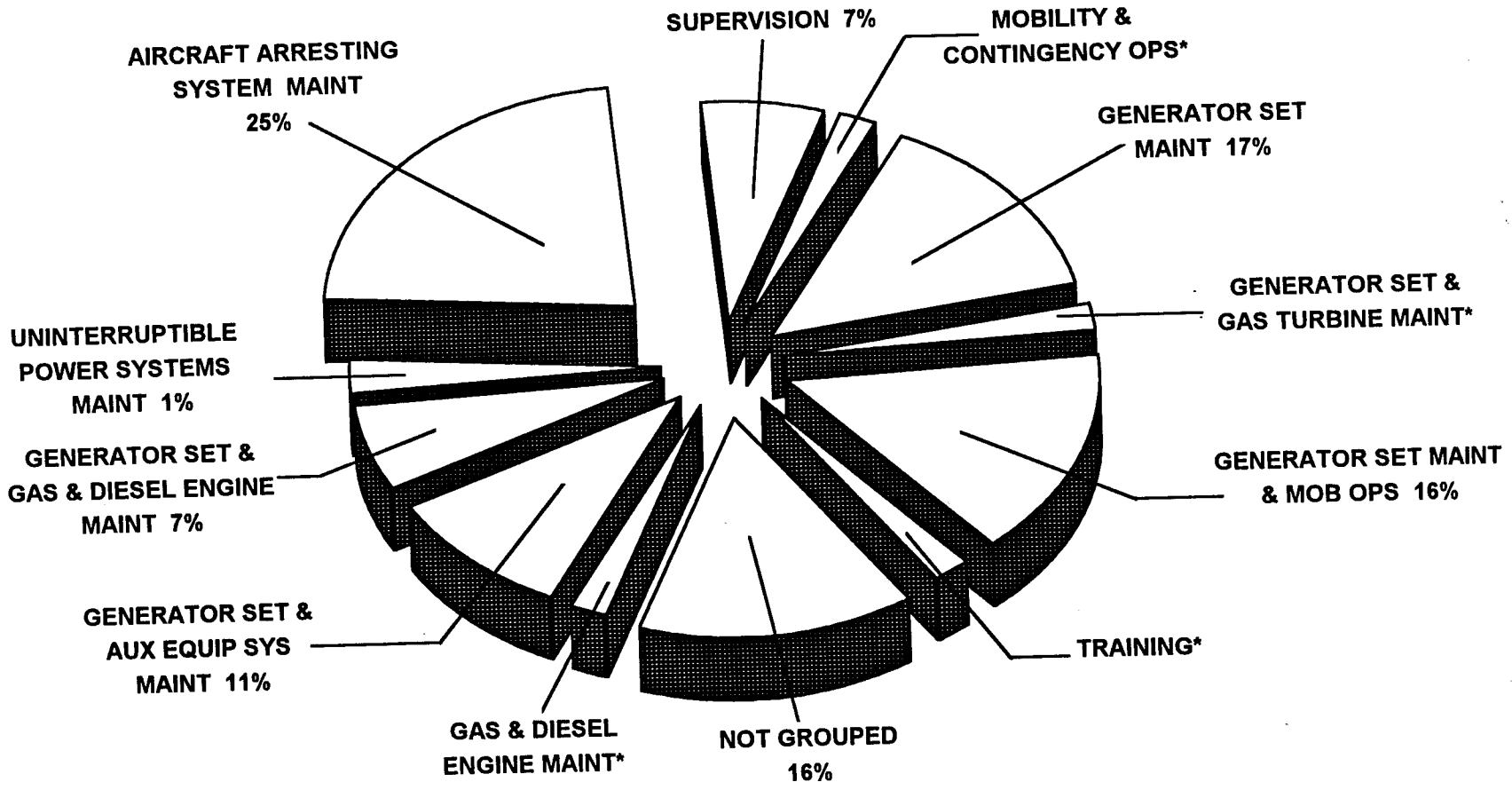
VI. Aircraft Arresting Systems (AAS) Maintenance (GRP047, N=264)

VII. Mobility and Contingency Operations (STG186, N=10)

VIII. Supervision (STG098, N=73)

IX. Training (STG081, N=5)

JOBS PERFORMED BY ALL AFSC 3E0X2 PERSONNEL



* Less than 1 percent

FIGURE 1

X. Gasoline and Diesel Engine Maintenance (STG120, N=8)

XI. Uninterruptible Power Systems (UPS) Maintenance (STG153, N=12)

The respondents forming these groups account for 84 percent of the survey sample. The remaining 16 percent are performing tasks or a series of tasks which do not group with any of the defined jobs. Examples of job titles for these people include Readiness NCO, noncommissioned officer-in-charge facilities, Vehicle Control NCO, and Curriculum Developer.

Group Descriptions

The following paragraphs contain brief descriptions of the 11 jobs identified through the career ladder structure analysis. Also presented are two tables which reflect the time incumbents spend on duties and selected background data for each group. Table 3 presents the relative time spent by respondents in each job across each duty listed in the JI. Table 4 displays selected background information, such as DAFSC distributions across each group, average of total months in active military service (i.e., Total Active Federal Military Service (TAFMS)), and average number of tasks performed. Appendix A at the back of this OSR lists representative tasks performed by members of each group.

Another way to illustrate these jobs is to summarize tasks performed into groups of tasks or task modules (TMs). This allows for a very concise display of where job incumbents spend most of their time and thus develops a comprehensive overview of each job. These modules were identified through CODAP coperformance clustering, which presents the average probability that if you perform one task, you also perform a second task or a group of related tasks. The probabilities are calculated on the actual coperformance of tasks by respondents in this survey sample. Representative TMs are listed as part of each job description. The listing of the TMs shows the number of tasks included in a module and the percent time spent on tasks in that module, and finally, an average percent of members performing the particular TM. The list of modules, with respective tasks, is presented in Appendix B.

I. GENERATOR SET MAINTENANCE (STG060, N=172). Incumbents in this job perform an average of 78 tasks and are responsible for maintaining generator sets and electrical power production equipment. Personnel spend 26 percent of their time maintaining generator sets (see Table 3). They operationally inspect, record readings, refuel, and start up generator sets. Examples of tasks performed include:

perform walk around inspections of generator sets during operation
take or record engine indicator readings

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E0X2 JOB GROUPS

DUTIES		GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
A	ORGANIZING AND PLANNING	3	5	2	8	7	4
B	DIRECTING AND IMPLEMENTING	1	2	2	4	4	2
C	INSPECTING AND EVALUATING	2	3	2	6	5	3
D	TRAINING	1	2	2	4	4	3
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	6	5	3	10	9	6
F	PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*	*	0	1	*	1
G	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	17	15	8	11	9	9
H	MAINTAINING AUTOMATIC TRANSFER PANELS	3	3	*	2	*	2
I	MAINTAINING GASOLINE AND DIESEL ENGINES	3	4	5	5	10	2
J	MAINTAINING GAS TURBINE ENGINES	*	*	18	*	0	*
K	MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4	3	2	3	5	2
L	MAINTAINING LUBRICATING SYSTEMS	5	5	5	3	5	2
M	MAINTAINING FUEL SYSTEMS	7	10	10	7	7	5
N	MAINTAINING COOLING SYSTEMS	3	4	4	3	3	2
O	MAINTAINING GOVERNORS	1	*	2	2	2	1

* Denotes Less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E0X2 JOB GROUPS

DUTIES		GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
P	MAINTAINING INTAKE AND EXHAUST SYSTEMS	2	2	4	2	3	1
Q	MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	*	4	1	3	1
R	MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3	3	2	3	3	2
S	MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	1	*	0	*	3	*
T	OPERATING AND MAINTAINING GENERATOR SETS	26	17	11	9	10	7
U	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*	*	2	*
V	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	2	2	4	2	*	37
W	PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	3	12	7	11	1	6
X	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	3	3	2	3	5	2

* Denotes Less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E0X2 JOB GROUPS

	DUTIES	MOBILITY & CONTINGENCY (STG186)	SUPV (STG098)	TRNG (STG081)	GASOLINE & DIESEL ENGINE (STG120)	UPS (STG153)
A	ORGANIZING AND PLANNING	12	21	16	1	7
B	DIRECTING AND IMPLEMENTING	7	13	10	1	5
C	INSPECTING AND EVALUATING	10	15	13	1	5
D	TRAINING	5	10	44	*	10
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5	14	7	2	15
F	PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	0	3	*	0	1
G	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	7	5	1	17	9
H	MAINTAINING AUTOMATIC TRANSFER PANELS	0	1	*	*	0
I	MAINTAINING GASOLINE AND DIESEL ENGINES	1	1	*	44	0
J	MAINTAINING GAS TURBINE ENGINES	0	*	*	0	0
K	MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	1	1	*	2	1
L	MAINTAINING LUBRICATING SYSTEMS	1	*	*	5	0
M	MAINTAINING FUEL SYSTEMS	5	1	*	8	0
N	MAINTAINING COOLING SYSTEMS	1	*	*	2	0
O	MAINTAINING GOVERNORS	*	1	*	2	0
P	MAINTAINING INTAKE AND EXHAUST SYSTEMS	1	*	*	3	*
Q	MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	*	*	1	0
R	MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	1	1	*	2	2
S	MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	0	0	*	0	44
T	OPERATING AND MAINTAINING GENERATOR SETS	10	5	*	6	0
U	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	0	*	1	3	*
V	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	*	1	*	0	0
W	PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	30	4	1	*	*
X	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES SYSTEMS	3	2	7	*	1

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 3E0X2 CAREER LADDER JOBS

	GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
NUMBER IN GROUP	172	163	9	111	74	264
PERCENT OF SAMPLE	17%	16%	*	11%	7%	25%
PERCENT IN CONUS	72%	82%	100%	84%	61%	61%
DAFSC DISTRIBUTION:*						
3E032	42%	34%	44%	9%	9%	35%
3E052	56%	57%	44%	51%	72%	50%
3E072	2%	9%	11%	40%	19%	15%
PREDOMINANT PAYGRADE(S)	E-3/E-4	E-3/4/5	E-3/4/5	E-5/E-6	E-5	E-3/4/5
AVERAGE MONTHS IN SERVICE (TAFMS)	67	79	82	156	119	91
PERCENT IN FIRST ENLISTMENT	52%	38%	33%	10%	16%	38%
AVERAGE NUMBER OF TASKS PERFORMED	78	148	216	268	208	242
PERCENT SUPERVISING	21%	36%	67%	82%	66%	49%

* Less than 1 percent

NOTE: Columns may not total 100 percent due to rounding

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 3E0X2 CAREER LADDER JOBS

	MOBILITY & CONTINGENCY	SUPV	TRNG	GASOLINE & DIESEL ENGINE	UPS
NUMBER IN GROUP	10	73	5	8	12
PERCENT OF SAMPLE	*	7%	*	*	1%
PERCENT IN CONUS	90	63%	60%	63%	100%
DAFSC DISTRIBUTION:**					
3E032	0%	1%	0%	37%	0%
3E052	10%	23%	20%	63%	67%
3E072	90%	75%	80%	0%	33%
PREDOMINANT PAYGRADE(S)	E-6	E-6/E-7	E-6/E-7	E-3/E-4	E-5/E-6
AVERAGE MONTHS IN SERVICE (TAFMS)	190	190	192	71	148
PERCENT IN FIRST ENLISTMENT	0%	1%	0%	51%	0%
AVERAGE NUMBER OF TASKS PERFORMED	166	120	67	107	89
PERCENT SUPERVISING	100%	95%	80%	12%	42%

* Less than 1 percent

NOTE: Columns may not total 100 percent due to rounding

perform stand by engine run ups
refuel generator sets or storage tanks
monitor or adjust engine controls during operation
place generator sets online after power failures
start or shut down generator sets
perform preoperational inspections of generator sets
perform postoperational inspections of generator sets

Representative TMs for this cluster include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	35	66%
0009	COMPRESSORS	8	2	24%
0006	PROTECTIVE CLOTHING AND EQUIPMENT	7	2	21%

The Generator Sets module data above clearly show how specialized this job is, with 35 percent of the job time spent on the 30 tasks in that module.

Personnel working in this job have the least experience, with 52 percent in their first enlistment, and 56 percent holding a 5-skill level. The average TAFMS for these incumbents is 67 months, and the predominant paygrades of the job incumbents are E-3 and E-4.

II. GENERATOR SET MAINTENANCE AND MOBILITY OPERATIONS (STG157, N=163). This job involves many of the same technical maintenance tasks as the previous job. However, personnel in this job spend 12 percent of their time dealing with mobility operations and contingency activities. Commonly performed tasks include:

perform walk around inspections of generator sets during operation
refuel generator sets or storage tanks
start or shut down generator sets
perform preoperational inspections of generator sets
perform postoperational inspections of generator sets
perform generator set single unit operations
fire weapons, such as 9mm caliber pistols or M-16 rifles
tear down, inspect, clean, and reassemble weapons, such as 9mm caliber pistols or M-16 rifles

erect tents
prepare personal clothing for deployment
install tent lighting
don or doff chemical warfare personal protective clothing

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	25	88%
0005	MOBILITY AND CONTINGENCY	37	10	38%
0002	LIGHTING EQUIPMENT	4	1	40%

The TM data show that the largest percent of the job time (25 percent) is spent on the 30 tasks comprising the Generator Sets TM, with the Mobility and Contingency TM showing 10 percent of the time spent. These data tend to indicate that generator set maintenance is the predominant function within this job, with mobility and contingency tasks being a secondary function.

Personnel in this job average 79 months' TAFMS, with 38 percent in their first enlistment. Fifty-seven percent hold the 5-skill level. The predominant paygrades of job incumbents are E-3, E-4, and E-5.

III. GENERATOR SET AND GAS TURBINE MAINTENANCE (STG213, N=9). Respondents in this job replace, calibrate, test, clean, and operationally inspect gas turbine engines, in addition to starting, testing, and refueling generator sets. Job incumbents spend 18 percent of their time in Duty J, Maintaining Gas Turbine Engines, and 11 percent in Duty T, Operating and Maintaining Generator Sets (see Table 3). Commonly performed tasks include:

perform postoperational inspections of gas turbine engines
calibrate Solar 750kw gas turbine engine speed monitors
test Solar 750kw gas turbine exhaust temperature monitors
replace gas turbine engine starting system components
replace gas turbine engine ignitors
clean gas turbine engine starting system components

test generator sets using load banks
start or shutdown generator sets
refuel generator sets or storage tanks

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0033	GAS TURBINE	14	6	83%
0034	SOLAR 750KW GAS TURBINE	24	10	81%
0001	GENERATOR SETS	30	14	81%

The TM data show that the largest percent of the job time (16 percent) is spent on the 38 tasks comprising the Gas Turbine and Solar 750kw Gas Turbine TMs. Tasks in all three of these TMs are performed by substantial percentages of this job.

Forty-four percent of those holding this job have a 3- or 5-skill level and average 82 months' TAFMS. Thirty-three percent are in their first enlistment. One hundred percent are assigned to the CONUS.

IV. GENERATOR SET AND AUXILIARY EQUIPMENT SYSTEMS MAINTENANCE (STG234, N=111). AFSC 3E0X2 personnel in the Generator Sets and Auxiliary Equipment System job perform an average of 268 tasks, more tasks than personnel with any other job in the career ladder. In addition to maintaining generator sets, personnel work on a variety of auxiliary equipment such as battery chargers, voltage regulators, and load banks. This broad job also includes supervisory duties. Representative tasks performed by these members include:

perform generator sets single unit operations
perform walk around inspections of generator sets during inspection
start or shut down generator sets
perform preoperational inspections of generator sets
connect or disconnect generator sets cables
perform postoperational inspections of generator sets
adjust battery chargers
inspect or clean battery chargers
replace battery charger components or units
assign maintenance or repair work

counsel personnel on personal or military-related matters
determine or establish work priorities
adjust voltage regulators

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	12	90%
0010	FIRST-LINE SUPERVISION	45	13	66%
0003	FUEL SYSTEMS	6	1	52%
0004	TRANSFER PANELS	9	1	41%
0016	GOVERNORS	11	1	36%
0009	COMPRESSORS	8	1	33%

As expected, the Generator Sets module is the most predominant module for this group, with generator set tasks in the module being performed by an average of 90 percent of group members. First-line supervision tasks also account for a substantial amount of their job time.

Respondents with this job average 156 months' TAFMS, 51 percent hold the 5-skill level, 40 percent hold the 7-skill level, and most are in paygrades E-5 and E-6. Eighty-two percent report having supervisory responsibilities.

V. GENERATOR SET AND GASOLINE AND DIESEL ENGINE MAINTENANCE (STG104, N=74). Incumbents in this job perform an average of 208 tasks and spend 10 percent of their time performing gasoline and diesel engine maintenance. Respondents spend a majority of their duty time inspecting, replacing, adjusting, and isolating gasoline and diesel engine components and generator sets at the local level. Commonly performed tasks include:

change lubricating oil
perform walk around inspections of generator sets during inspection
perform preoperational inspections of generator sets
perform postoperational inspections of generator sets
inspect engine circuits or protective devices
interpret meter readings
take or record engine indicator readings

inspect crankshafts
adjust engine safety circuits or protective devices
replace engine seals or gaskets
adjust air start system components
isolate malfunctions within engine safety circuits or protective devices

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	13	77%
0022	ENGINES	41	7	36%
0009	COMPRESSORS	8	2	58%
0020	FUEL INJECTORS	5	1	50%

Although members spend 13 percent of their job time performing 30 generator set tasks, they also spend 10 percent of their job time performing engine, compressor, and fuel injector tasks. Most of these 74 personnel hold the 5-skill level, with the predominant paygrade being E-5. Average time in service is 119 months. Only 16 percent are in their first enlistment.

VI. AIRCRAFT ARRESTING SYSTEMS (AAS) MAINTENANCE (GRP047, N=264). This job is characterized by the time spent maintaining and inspecting aircraft arresting barriers. It is performed by the largest number of respondents, comprising 25 percent of the sample. Personnel in this job perform an average of 242 tasks. Members spend 37 percent of their time performing AAS maintenance. Commonly performed tasks include:

inspect AAS tape connector wear
inspect AAS tape stack heights
adjust AAS cam zero indexes
crop AAS tapes
bleed AAS hydraulic systems
attach or install AAS hook cables or pendants
adjust AAS cam control valve clearances
inspect AAS nitrogen systems
inspect AAS hook cables
refill AAS nitrogen systems
inspect runway surface beneath AAS hook cables
fill AAS hydraulic systems

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0015	AIRCRAFT ARRESTING SYSTEMS	150	38	50%
0001	GENERATOR SETS	30	12	73%

The TM data show that the largest percent of the job time (38 percent) is spent on the 150 tasks comprising the AAS TM. Fifty percent of the members hold the 5-skill level, 35 percent hold the 3-skill level, and 15 percent hold the 7-skill level. Predominant paygrades range from E-3 through E-5. Average TAFMS is 91 months. Thirty-eight percent are in their first enlistment.

VII. MOBILITY AND CONTINGENCY OPERATIONS (STG186, N=10). Incumbents perform an average of 166 tasks. With very little time spent on generator set maintenance, respondents spend 30 percent of their duty time preparing for and participating in mobility and contingency activities, as well as performing supervisory functions. The following are typical tasks the members of this job perform:

prepare equipment for deployment
operate M-series vehicle for contingency exercises or operations
palletize contingency equipment
conduct mobility exercises or deployment site surveys
pack contingency equipment
operate refueling vehicles for contingency exercises or operations
participate in convoy exercises
prepare personal clothing for deployments
determine or establish work priorities
schedule personnel for leaves, passes, or temporary duty (TDY)
counsel personnel on personal or military-related matters
conduct performance feedback worksheet (PFW) evaluation sessions
conduct self-inspections
write EPRs

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0005	MOBILITY AND CONTINGENCY	37	22	68%
0010	FIRST-LINE SUPERVISION	45	20	64%
0001	GENERATOR SETS	30	12	65%

Not surprisingly, the top TM for this job involves mobility and contingency activities. While Generator Sets is also a part of this job, the percent time spent performing those tasks is much smaller (12 percent), compared to those performing mobility and contingency related tasks (22 percent).

Ninety percent of these job incumbents hold the 7-skill level. Average time in service is 190 months. There are no incumbents in their first enlistment. The predominant paygrade is E-6.

VIII. SUPERVISION (STG098, N=73). Unlike the first seven technically oriented jobs above, personnel in this job primarily perform supervisory and management tasks. Although some technical tasks are performed, 63 percent of their job time is spent on supervisory and administrative duties (see Table 3). This includes supervising, counseling and evaluating subordinates, and determining personnel and equipment requirements. These functions are shown by the following tasks;

counsel personnel on personal or military-related matters
write EPRs
write recommendations for awards or decorations
conduct performance feedback worksheet (PFW) evaluation sessions
establish performance standards for subordinates
supervise electrical power production specialists (AFSC 54252)
determine or establish work priorities
assign personnel to work crews
conduct supervisory orientations of newly assigned personnel
schedule personnel for leaves, passes, or temporary duty (TDY)

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0010	FIRST-LINE SUPERVISION	45	35	77%
0011	ON-THE-JOB TRAINING (OJT)	6	2	43%
0013	SUPERVISION AND MANAGEMENT	25	9	41%

The TM data show a highly focused job, in that 35 percent of the job time is spent in one module (First-Line Supervision), with smaller amounts of time being spent on the other areas. The remaining modules listed are functions normally handled only by supervisors.

Most personnel performing this job hold a 5-skill level (23 percent) or a 7-skill level (75 percent). Only 1 percent are in their first enlistment, and personnel average 190 months' time in service. Ninety-five percent indicate they supervise one or more personnel. Predominant paygrades are E-6 and E-7.

IX. TRAINING (STG081 N=5). As with nearly all other career ladders, a number of personnel spend most of their duty time performing training functions at bases other than the technical school. Respondents in this job spend 43 percent of their time performing these training functions. This job entails developing tests, counseling trainees, and developing training aids. Members also instruct some formal classes and manage OJT courses. Commonly performed tasks include:

brief unit staff personnel on training programs or matters
administer or score tests
evaluate progress of trainees
write test questions
write or revise training materials
schedule personnel for training
write training reports
maintain training records, charts, graphs, or files
evaluate training materials or aids
construct or develop training aids

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0011	ON-THE-JOB TRAINING (OJT)	6	7	57%
0029	TRAINING	24	26	47%
0010	FIRST-LINE SUPERVISION	45	27	44%

The three TMs listed above account for 60 percent of the total job time of personnel performing this job. They reflect the training focus of this job.

Personnel with the Training job hold either the 5- or 7-skill level. Most are in paygrades E-6 and E-7, and average 192 months' TAFMS. Average number of tasks performed is 67.

X. GASOLINE AND DIESEL ENGINE MAINTENANCE (STG120, N=8). As contrasted with the Generator Set and Gasoline and Diesel Engine Maintenance job, personnel in this job spend 44 percent of their time maintaining gasoline and diesel engines at the depot level. The job entails an average of 107 tasks which deal with assembling, measuring, and inspecting engine components. Commonly performed tasks include:

assemble or disassemble engines
measure crankshaft end-thrust clearances
inspect crankshafts
inspect cylinder liners
inspect camshafts
inspect engine blocks
inspect engine crankcases
inspect cylinder heads
measure cylinder liners
measure connecting rod and main bearing clearances
perform corrosion control on electrical power production equipment
clean cylinder heads

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0022	ENGINES	41	36	77%
0001	GENERATOR SETS	30	14	45%
0023	POWER PLANT	6	2	33%

As expected, the predominant module for this job is the Engines module, with 36 percent of the total job time spent on the 41 tasks in that module. Personnel in this job hold a 3- or 5-skill level, with an average time in service of 71 months and a predominant paygrade of E-3 or E-4. Fifty-one percent are in their first enlistment.

XI. UNINTERRUPTIBLE POWER SYSTEMS (UPS) MAINTENANCE (STG153, N=12). Personnel in this job spend 44 percent of their duty time performing tasks which deal with UPS maintenance. The job entails isolating malfunctions within UPS, as well as performing standard maintenance and repair functions. Commonly performed tasks include:

perform single unit operations of SSUPS
perform periodic maintenance on SSUPS
perform PMIs of SSUPS battery banks
shut down or start up SSUPS
test SSUPS batteries
isolate malfunctions with SSUPS inverters
isolate malfunctions with SSUPS rectifier/chargers
isolate malfunctions with SSUPS printed circuit boards
isolate malfunctions with SSUPS control circuits
isolate malfunctions with SSUPS battery banks
isolate malfunctions with SSUPS static switches
align control circuitry of solid-state uninterruptible power systems (SSUPS)
replace SCRs in SSUPS

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0031	SOLID STATE UNINTERRUPTIBLE POWER SYSTEMS (SSUPS)	35	45	84%
0012	SUPPLY AND ADMINISTRATION	21	6	36%

As expected, the SSUPS module is the primary module, with 45 percent of the total job time spent on the 35 tasks comprising this module, indicating a very specialized job.

Sixty-seven percent of these personnel hold a 5-skill level, with the average time in service being 148 months. The predominant paygrades of group members is E-5 or E-6, and none are in their first enlistment.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Electrical Power Production OSR published in 1985. Although the job titles vary between the two studies, generally, the tasks that the personnel in both studies perform are the same. As shown in Table 5, eight jobs in the current study were also identified in 1985. Two jobs, however, were identified in this survey, but not identified in the 1985 survey. These were the Generator Set Maintenance and Mobility operations, and Mobility and Contingency Operations jobs. Two jobs, Electrical Protective Devices Maintenance Personnel and Electrical Power Production Instructors, were identified in the 1985 survey, but were not identified as a distinct group in the present study.

SUMMARY

Job structure analysis reveals the Electrical Power Production Specialty to be fairly diverse. There is a common thread among most of the technical jobs involving maintenance and operation of electrical generator sets. However, each of the 11 identified jobs has characteristics associated with maintaining other equipment, such as SSUPS, aircraft arresting systems; or unique functions such as mobility, contingency, training, and management functions. This structure has been relatively stable over the past 9 years.

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
VERSUS 1985 STUDY

1993 STUDY (N=1,041)	1985 STUDY (N=1,672)*
Generator Set Maintenance	First-Job General Power Production Personnel Fixed Power Production Equipment Operators
Generator Set Maintenance and Mobility Operations	Not Identified
Generator Set and Gas Turbine Maintenance	Portable Generator Set Maintainer and Operator Personnel
Generator Set and Auxiliary Equipment Systems Maintenance	Portable Generator Set Maintainer and Operator Personnel
Generator Set and Gasoline and Diesel Engine Maintenance	CEMIRT Power Production Personnel
Aircraft Arresting Systems Maintenance	Aircraft Arresting Barrier and Power Maintenance and Operation Personnel Senior Level Aircraft Arresting Barrier Personnel First-Job Aircraft Arresting Barrier Personnel
Mobility and Contingency Operations Personnel	Not Identified
Supervision	NCOIC - Electrical Power Production Shop Electrical Power Production Supervisory Personnel Work Leaders, Supervisors (Non-CE)
Training	Prime Power Plant and Standby Power Plant Personnel
Gasoline and Diesel Engine Maintenance	Gas, Natural Gas, Diesel Engine Technicians
Uninterruptible Power Systems Maintenance	Uninterruptible Power Systems Technicians
Not Identified	Electrical Power Devices Maintenance Personnel
Not Identified	Electrical Power Production Instructors

* Includes civilians

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as the CFETP, *AFMAN 36-2108 Specialty Descriptions*, and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the AFSC 3E0X2 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time maintaining generator sets and aircraft arresting systems. As incumbents move up to the 7-skill level, higher percentages work in the Supervision job, but many personnel still spend some time on technical tasks involving aircraft arresting systems, mobility and contingency operations, and generator sets. (See Tables 6 and 7).

Skill-Level Descriptions

DAFSC 3E032. The 272 airmen in the 3-skill level group, representing 23 percent of the survey sample, spend most of their job time maintaining generator sets, performing general electrical power production activities, and maintaining AASs. (See Table 7.) Thirty-four percent are working in the AAS job, with 27 percent working in the Generator Set Maintenance job, and 20 percent in the Generator Set Maintenance and Mobility Operations job (see Table 6).

Table 8 lists representative tasks performed by 3-skill level incumbents. Most tasks listed relate to Duty G (Performing General Electrical Power Production Activities) and Duty T (Operating and Maintaining Generator Sets).

DAFSC 3E052. The 532 airmen in the 5-skill level group represent 51 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the AAS job (25 percent). However, several shifts in jobs performed are noted. Jobs performed by 5-skill personnel broaden from primarily three to six jobs. While time on generator set maintenance decreases, that time is increasing in areas dealing with auxiliary equipment, gasoline and diesel engine, and gas turbine engines. (See Table 6.)

Representative tasks performed by 5-skill level incumbents are listed in Table 9. Table 10 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts. All tasks in the table show a negative value, indicating that 5-skill level personnel

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)

JOB		DAFSC 3E032 (N=272)	DAFSC 3E052 (N=532)	DAFSC 3E072 (N=237)
I.	Generator Set Maintenance	27	18	1
II.	Generator Set Maintenance and Mobility Operations	20	17	6
III.	Generator Set and Gas Turbine Maintenance	1	7	4
IV.	Generator Set and Auxiliary Equipment Systems Maintenance	4	11	19
V.	Generator Set and Gasoline and Diesel Engine Maintenance	2	10	6
VI.	Aircraft Arresting Systems Maintenance	34	25	17
VII.	Mobility and Contingency Operations	0	*	4
VIII.	Supervision	*	3	23
IX.	Training	0	*	1
X.	Gasoline and Diesel Engine Maintenance	1	1	0
XI.	Uninterruptable Power Systems Maintenance	0	2	2
XII.	Ungrouped	8	6	17

* Less than 1 percent

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)**

	DUTIES	DAFSC 3E032 (N=272)	DAFSC 3E052 (N=532)	DAFSC 3E072 (N=237)
A	ORGANIZING AND PLANNING	3	6	15
B	DIRECTING AND IMPLEMENTING	1	3	8
C	INSPECTING AND EVALUATING	1	4	11
D	TRAINING	1	4	8
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5	7	10
F	PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*	*	2
G	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	15	12	6
H	MAINTAINING AUTOMATIC TRANSFER PANELS	3	2	1
I	MAINTAINING GASOLINE AND DIESEL ENGINES	0	5	2
J	MAINTAINING GAS TURBINE ENGINES	1	*	1
K	MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4	3	2
L	MAINTAINING LUBRICATING SYSTEMS	4	3	1
M	MAINTAINING FUEL SYSTEMS	7	6	3
N	MAINTAINING COOLING SYSTEMS	3	3	1
O	MAINTAINING GOVERNORS	1	1	1
P	MAINTAINING INTAKE AND EXHAUST SYSTEMS	2	2	1
Q	MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	1	1
R	MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3	2	1
S	MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	*	2	1
T	OPERATING AND MAINTAINING GENERATOR SETS	15	13	6
U	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*
V	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	17	11	6
W	PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	6	7	8
X	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	2	3	3

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E032 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=272)
G256	Perform general cleaning of electrical power production equipment	87
T730	Start or shutdown generator sets	85
L440	Change lubricating oil	85
N511	Add antifreeze to cooling systems	83
G266	Replace batteries	82
T726	Perform walk around inspections of generator sets during operation	81
T724	Perform preoperational inspections of generator sets	80
T723	Perform postoperational inspections of generator sets	80
G277	Service or charge lead-acid-type batteries	78
T728	Refuel generator sets or storage tanks	78
T725	Perform stand-by engine run-ups	77
T722	Perform generator set single unit operations	76
G235	Inspect power generating equipment drive belts	76
G255	Perform corrosion control on electrical power production equipment	75
T732	Take or record engine indicator readings	74
M470	Inspect or clean fuel filters or strainers	73
R639	Replace fuses	72
T733	Test generator sets using load banks	72
L455	Replace lube oil filters or strainers	70
L443	Fill lubrication systems	69
T713	Interpret meter readings	68
M489	Replace fuel filters or strainers	68
T727	Place generator sets on line after power failures	67
T715	Monitor or adjust engine controls during operation	65
G258	Perform or practice cardiopulmonary resuscitation (CPR)	65
M485	Prime or bleed fuel systems	65
T711	Connect or disconnect generator set cables	64
G226	Adjust power generating equipment drive belts	64
G241	Interpret wiring or schematic diagrams	64
G281	Set up or remove portable generators at remote locations	63

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E052 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=532)
T726	Perform walk around inspections of generator sets during operation	81
G256	Perform general cleaning of electrical power production equipment	80
T730	Start or shutdown generator sets	80
T724	Perform preoperational inspections of generator sets	78
G266	Replace batteries	78
T723	Perform postoperational inspections of generator sets	77
L440	Change lubricating oil	76
G255	Perform corrosion control on electrical power production equipment	76
G277	Service or charge lead-acid-type batteries	75
N511	Add antifreeze to cooling systems	74
T722	Perform generator set single unit operations	73
T728	Refuel generator sets or storage tanks	72
G258	Perform or practice cardiopulmonary resuscitation (CPR)	71
G235	Inspect power generating equipment drive belts	70
T725	Perform stand-by engine run-ups	69
M489	Replace fuel filters or strainers	69
M470	Inspect or clean fuel filters or strainers	69
L455	Replace lube oil filters or strainers	67
T732	Take or record engine indicator readings	67
T713	Interpret meter readings	66
T715	Monitor or adjust engine controls during operation	65
G241	Interpret wiring or schematic diagrams	64
L443	Fill lubrication systems	64
T727	Place generator sets on line after power failures	63
M485	Prime or bleed fuel systems	63
G226	Adjust power generating equipment drive belts	63
M467	Drain water from fuel system components	62
T733	Test generator sets using load banks	61
G272	Replace power generating equipment drive belts	60
R639	Replace fuses	60

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 3E032 AND DAFSC 3E052 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E032 (N=272)	3E052 (N=532)	DIFFERENCE
C93	Write EPRs	3	48	-45
B38	Counsel personnel on personal or military-related matters	10	52	-42
C63	Conduct performance feedback worksheet (PFW) evaluation sessions	7	45	-38
B57	Supervise Electrical Power Production Specialists (AFSC 54252)	3	39	-35
A20	Establish performance standards for subordinates	7	42	-34
D122	Evaluate progress of trainees	6	39	-33
D104	Conduct OJT	17	50	-33
D109	Counsel trainees on training progress	6	38	-33
A1	Assign maintenance and repair work	15	47	-32
D126	Maintain training records, charts, graphs, or files	11	42	-31
B56	Supervise Apprentice Electrical Power Production Specialists (AFSC 54232)	11	41	-30
B37	Conduct supervisory orientations of newly assigned personnel	5	34	-30
C96	Write recommendations for awards or decorations	1	30	-30
D121	Evaluate personnel for training needs	4	32	-28
A2	Assign personnel to work crews	7	32	-25
C76	Evaluate personnel for compliance with performance standards or technical orders	4	29	-25
A10	Determine or establish work priorities	22	45	-24
C77	Evaluate personnel for promotion, demotion, reclassification, or special awards	2	25	-23
B52	Interpret policies, directives, or procedures for subordinates	8	30	-22

are also performing all the technical tasks that 3-skill level respondents perform. The major difference between the two groups, as seen in Table 10, is that 5-skill level personnel perform a broader range of tasks, many being supervisory or training tasks.

DAFSC 3E072. Seven-skill level personnel represent 23 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, higher percentages of these personnel are working in the Supervisory job (23 percent versus less than 1 percent and 3 percent respectively). However, fairly high percentages of 7-skill level personnel are still working in the Generator Set and Auxiliary Equipment Systems Maintenance and the AAS Maintenance jobs. (See Table 6.) Table 11 lists the most common tasks performed by 7-skill level personnel. Most of these involve supervisory functions. Table 12 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key difference is a much greater emphasis on supervisory functions at the 7-skill level.

Summary

Progression in this career ladder follows a normal pattern of highly technical job focus at the lower skill levels, with a broadening into supervision at the 7-skill level. Emphasis is seen in performing primarily the jobs of Generator Set and AAS Maintenance at the 3- and 5-skill levels. Craftsmen at the 7-skill level are beginning to shift to supervision tasks, but a good deal of their job time is still spent in the technical arena. This progression is easily seen in Table 6.

ANALYSIS OF AFMAN 36-2108 SPECIALTY DESCRIPTIONS

Survey data were compared to the *AFMAN 36-2108 Specialty Descriptions* for Electrical Power Production Specialist and Technician, effective 30 April 1991. These specialty descriptions are intended to provide a broad overview of the duties and responsibilities of each skill level.

The 3- and 5-skill level specialty description is generally accurate in describing the technical jobs of Generator Set Maintenance and AAS Maintenance. The 7-skill level description accurately reflects the added supervisory, directing, and inspection functions.

TABLE 11

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E072 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=237)
B38	Counsel personnel on personal or military-related matters	84
C93	Write EPRs	82
A10	Determine or establish work priorities	81
A26	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	78
A1	Assign maintenance and repair work	77
C63	Conduct performance feedback worksheet (PFW) evaluation sessions	77
C64	Conduct self-inspections	76
B57	Supervise Electrical Power Production Specialists (AFSC 54252)	74
A2	Assign personnel to work crews	73
A33	Schedule personnel for leaves, passes, or temporary duty (TDY)	72
B37	Conduct supervisory orientations of newly assigned personnel	71
A5	Coordinate maintenance or supply problems with appropriate agencies	71
C96	Write recommendations for awards or decorations	70
A20	Establish performance standards for subordinates	69
A9	Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies	68
A3	Assign sponsors for newly assigned personnel	67
A21	Establish procedures for accountability of equipment, tools, or supplies	67
A31	Plan or schedule work assignments	65
T730	Start or shut down generator sets	65
D121	Evaluate personnel for training needs	64
D122	Evaluate progress of trainees	64
T726	Perform walk around inspections of generator sets during operation	64
A19	Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)	63
A7	Determine electrical generating requirements	63
D100	Assign on-the-job training (OJT) trainers or supervisors	63
G258	Perform or practice cardiopulmonary resuscitation (CPR)	63
A8	Determine maintenance requirements for equipment or facilities	62
C76	Evaluate personnel for compliance with performance standards or technical orders	62
B52	Interpret policies, directives, or procedures for subordinates	62
D126	Maintain training records, charts, graphs, or files	62

TABLE 12

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 3E052 AND DAFSC 3E072 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E052 (N=532)	3E072 (N=237)	DIFFERENCE
L443	Change lubricating oil	76	45	31
G256	Perform general cleaning of electrical power production equipment	80	50	30
M489	Replace fuel filters or strainers	69	40	29
L455	Replace lube oil filters or strainers	67	40	27
G266	Replace batteries	78	50	27
G255	Perform corrosion control on electrical power production equipment	76	50	25
G277	Service or charge lead-acid-type batteries	75	50	25
M470	Inspect or clean fuel filters or strainers	69	45	24
N511	Add antifreeze to cooling system	74	51	23
G272	Replace power generating equipment drive belts	60	38	22
G235	Inspect power generating equipment drive belts	70	49	22
L443	Fill lubricating systems	64	42	22
T725	Perform standby engine runups	69	49	21
M485	Prime or bleed fuel systems	63	43	21
A33	Schedule personnel for leaves, passes, or temporary duty (TDY)	23	72	-49
A3	Assign sponsors for newly assigned personnel	19	67	-48
B58	Supervise Electrical Power Production Technicians (AFSC 54272)	6	52	-46
D100	Assign on-the-job training (OJT) trainers or supervisors	18	63	-45
C64	Conduct self-inspections	32	76	-44
A3	Assign personnel to work crews	32	73	-41
C96	Write recommendations for awards or decorations	30	70	-40
A34	Write job descriptions	14	54	-40
A5	Coordinate maintenance or supply problems with appropriate agencies	33	71	-38
A21	Establish procedures for accountability of equipment, tools, or supplies	29	67	-38
A23	Establish work methods, production controls, or inspection procedures	18	56	-38
B37	Conduct supervisory orientations of newly assigned personnel	34	71	-37
C69	Evaluate job descriptions	9	46	-37
C65	Conduct performance feedback worksheet (PFW) evaluation sessions	41	78	-37
A26	Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	21	58	-37
A16	Develop self-inspection program checklists	30	65	-36

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information which are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder, distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, and percentages of personnel maintaining specific equipment or systems, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder.

Training Emphasis and Task Difficulty Data

TE and TD data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank ordering of those tasks considered important for first-enlistment airman training (TE), and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help training personnel focus on tasks which are most appropriate for entry-level training, an additional factor, the Automated Training Indicator (ATI), was assigned to each task in the inventory. A computer program considered percent first-enlistment members performing, TE and TD ratings, and the Course Training Decision Logic Table found in AETCR 52-22, Atch 1, and assigned an ATI value to each task corresponding to the 18 training decisions on the table. The decision table and explanation of ATIs precede the listing of tasks in descending order of ATI in the TRAINING EXTRACT. Training personnel should focus on tasks with an ATI of 18, which suggests these tasks should be in the entry-level course.

Tasks having the highest TE ratings are listed in Table 13. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. Tasks with the highest TE deal with General Electrical Power Production Activities (Duty G), and Operating and Maintaining Generator Sets (Duty T).

Table 14 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE ratings are also included for each task. The majority of tasks with high difficulty are not performed by high percentages of any group, but one task, Assemble or Disassemble Engines, is performed by at least 20 percent of

TABLE 13

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
G241	Interpret wiring or schematic diagrams	6.54	58	61	6.46
T722	Perform generator set single unit operations	5.94	77	77	3.98
G258	Perform or practice cardiopulmonary resuscitation (CPR)	5.89	63	65	4.18
T724	Perform preoperational inspections of generator sets	5.86	78	79	3.75
G283	Verify phase rotation of generators	5.80	60	62	4.11
H290	Isolate malfunctions within automatic transfer panels	5.80	26	26	6.71
T727	Place generator sets on line after power failures	5.71	63	63	4.47
T723	Perform postoperational inspections of generator sets	5.71	78	79	3.64
T730	Start or shutdown generator sets	5.69	84	84	3.27
G277	Service or charge lead-acid-type batteries	5.66	74	77	3.29
T725	Perform stand-by engine run-ups	5.63	76	76	3.79
M485	Prime or bleed fuel systems	5.57	59	64	3.21
I352	Tune up gasoline engines	5.46	34	40	5.21
T721	Perform generator set emergency shutdown procedures	5.40	34	38	4.16
K416	Isolate malfunctions within battery chargers	5.37	19	22	5.53
I336	Replace electric start system components	5.34	33	38	5.24
T726	Perform walk-around inspections of generator sets during operation	5.34	81	80	3.48
T711	Connect or disconnect generator set cables	5.31	62	64	4.14
H292	Perform functional tests of automatic transfer panels	5.31	47	48	4.44
O553	Test overhead trip devices	5.29	11	12	4.79

TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)
TD MEAN = 5.00; SD = 1.00

TABLE 13 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	PERCENT MEMBERS PERFORMING 1ST ENL	TSK DIFF
H288	Inspect automatic transfer panels wiring and cable connections	5.29	49	47	4.38
O535	Adjust overhead trip devices	5.26	16	19	5.23
T713	Interpret meter readings	5.26	68	68	4.44
T715	Monitor or adjust engine controls during operation	5.23	63	66	4.04
L440	Change lubricating oil	5.20	81	82	3.08
V915	Take or record AAS gauge readings after arrestments	5.20	23	28	3.70
O536	Adjust stability and gain of electronic governors	5.17	16	15	5.61
I298	Adjust engine safety circuits or protective devices	5.11	25	28	5.30
I351	Time ignition systems	5.11	13	17	5.40
V914	Synchronize AASs	5.11	31	33	5.93
I349	Test engine safety circuits or protective devices	5.09	27	31	4.92
L442	Field test lube oil	5.09	44	48	3.74
T719	Parallel generator sets manually	5.09	35	39	4.98
K400	Adjust battery chargers	5.09	44	49	4.07
T733	Test generator sets using load banks	5.03	75	70	4.30
H287	Inspect automatic transfer panel components	5.03	56	52	4.62
H294	Replace automatic transfer panel components	5.00	30	31	5.30
P554	Adjust intake and exhaust valves	5.00	20	24	5.06
K402	Adjust voltage regulators	5.00	31	38	4.76
I318	Isolate malfunctions within electric start systems	4.97	37	39	5.82

TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)
TD MEAN = 5.00; SD = 1.00

TABLE 14

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 3E052	DAFSC 3E072	TNG EMP
S675	Isolate malfunctions within SSUPS printed circuit boards	7.94	1	1	4	4	1.46
S673	Isolate malfunctions within SSUPS parallel cabinets	7.70	0	0	3	1	1.69
S672	Isolate malfunctions within SSUPS inverters	7.68	1	0	5	4	2.03
U762	Perform depot-level rebuilding of power plant turbochargers	7.66	1	1	2	1	0.46
U744	Develop power plant redesign or construction information for appropriate agencies	7.61	1	0	1	1	0.37
S670	Isolate malfunctions within SSUPS control circuits	7.58	0	0	4	5	1.94
S671	Isolate malfunctions within SSUPS filter bank components	7.55	0	0	4	3	1.83
U765	Plan power plant rehabilitation projects	7.42	1	1	1	2	0.60
S674	Isolate malfunctions within SSUPS power supplies	7.41	0	0	4	3	1.89
U760	Perform depot-level rebuilding of power prime mover components	7.36	1	1	3	2	0.60
U746	Install or remove electrical distribution systems for power plants	7.34	1	1	1	1	0.40
S676	Isolate malfunctions within SSUPS rectifier/chargers	7.34	1	0	4	3	2.00
S664	Install or remove SSUPS	7.33	1	1	3	2	0.80
U747	Install or remove engines for power plants	7.28	1	2	5	2	0.74
V844	Overhaul AASs	7.27	4	8	6	1	1.63
R649	Rewire switchgear	7.25	5	5	5	6	1.69
U761	Perform depot-level rebuilding of power plant speed-sensing or load-sensing devices	7.25	1	0	1	1	0.49

TD MEAN = 5.00 SD = 1.00
TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)

TABLE 14 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 3E052	DAFSC 3E072	TNG EMP
U764	Perform scheduled overhaul inspections of prime power plants, such as 8,000-hour and above	7.24	1	1	3	3	1.37
D112	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	7.22	1	1	4	10	0.06
S667	Isolate malfunctions within rotary UPS master control panels	7.16	1	1	1	0	1.11
I301	Assemble or disassemble engines	7.13	20	23	23	11	3.74
U741	Construct, reconstruct, or modify power plant foundations	7.13	2	1	0	0	0.43
S666	Isolate malfunctions within rotary UPS control cubicles	7.09	1	1	1	0	1.14
S668	Isolate malfunctions within rotary UPS power supplies	7.01	1	0	1	0	1.11
S677	Isolate malfunctions within UPS power switches	6.98	1	0	4	3	1.60
U759	Perform depot-level rebuilding of powerplant fuel system components	6.95	1	1	2	1	0.71
S660	Align control circuitry of solid-state uninterruptible power systems (SSUPSs)	6.95	1	1	4	4	1.57
B43	Direct operation of maintenance of uninterruptible power systems (UPSs)	6.95	2	3	9	14	0.34
U745	Install or remove alternators for power plants	6.94	1	2	2	2	0.57
V868	Replace AAS brake assemblies	6.93	6	9	7	7	2.51

TD MEAN = 5.00 SD = 1.00
TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)

first-job, first-enlistment and 5-skill level personnel and has a fairly high TE rating. Many of the tasks with high TD values are related to isolating malfunctions and high-level management functions.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the SURVEY METHODOLOGY section of this report.

First-Enlistment Personnel

In this study, there are 317 members in their first enlistment (1-48 months' TAFMS), representing 30 percent of the survey sample. As displayed in Table 15, approximately 93 percent of their duty time is devoted to technical or administrative and supply functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the SPECIALTY JOBS section of this report. Of the 11 jobs identified, first-enlistment personnel are found in 7. Of the 317 first-enlistment personnel, 101 members work in the AAS Maintenance job (32 percent), 89 members work in the Generator Set Maintenance job (28 percent), and 63 members work in the Generator Set Maintenance and Mobility Operation job (20 percent). The remaining four, Generator Set and Gas Turbine Maintenance, Generator Set and Auxiliary Equipment Maintenance, Generator Set and Gasoline and Diesel Engine Maintenance, and Gasoline and Diesel Engine Maintenance comprise 2 percent of the first-enlistment personnel.

Table 16 displays commonly performed tasks for first-enlistment personnel. Most involve the routine maintenance of generator sets and electrical power production equipment.

Specialty Training Standard (STS) and Plan of Instruction (POI)

Presently, the STS and POI are being revised. Analysis of both documents will take place at a later date and will be released as an addendum to the OSR.

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several

TABLE 15

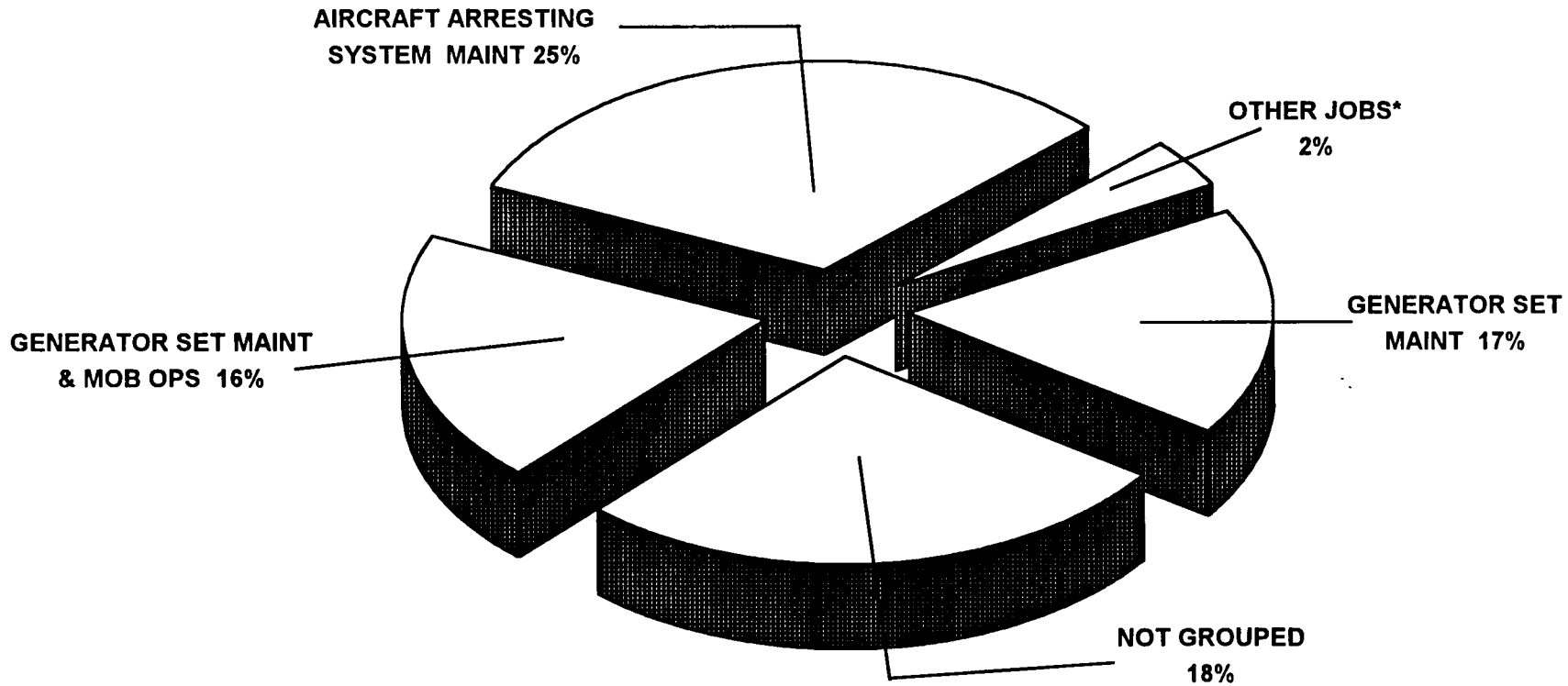
RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 3E0X2 PERSONNEL

DUTIES		PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	3
B	DIRECTING AND IMPLEMENTING	1
C	INSPECTING AND EVALUATING	2
D	TRAINING	1
E	PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5
F	PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*
G	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	15
H	MAINTAINING AUTOMATIC TRANSFER PANELS	3
I	MAINTAINING GASOLINE AND DIESEL ENGINES	5
J	MAINTAINING GAS TURBINE ENGINES	1
K	MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4
L	MAINTAINING LUBRICATING SYSTEMS	4
M	MAINTAINING FUEL SYSTEMS	7
N	MAINTAINING COOLING SYSTEMS	3
O	MAINTAINING GOVERNORS	1
P	MAINTAINING INTAKE AND EXHAUST SYSTEMS	2
Q	MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1
R	MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3
S	MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	*
T	OPERATING AND MAINTAINING GENERATOR SETS	16
U	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*
V	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	16
W	PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	7
X	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	3

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding
Total time spent does not add to 100 percent due to rounding

JOBS PERFORMED BY FIRST-ENLISTMENT AFSC 3E0X2 PERSONNEL



* Other Jobs include Generator Set and Gas Turbine Maintenance, Generator Set and Auxiliary Equipment Systems Maintenance, Gasoline & Diesel Engine Maintenance, and Generator Set & Gas & Diesel Engine

FIGURE 2

TABLE 16

MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT 3E0X2 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=317)
G256	Perform general cleaning of electrical power production equipment	87
T730	Start or shut down generator sets	84
L440	Change lubricating oil	82
G266	Replace batteries	82
N511	Add antifreeze to cooling systems	82
T726	Perform walk around inspections of generator sets during operation	80
T724	Perform preoperational inspections of generator sets	79
T723	Perform postoperational inspections of generator sets	79
T722	Perform generator set single unit operations	77
G277	Service or charge lead-acid-type batteries	77
T725	Perform stand-by engine run-ups	76
T728	Refuel generator sets or storage tanks	76
G255	Perform corrosion control on electrical power production equipment	75
G235	Inspect power generation equipment drive belts	75
T713	Interpret meter readings	68
L443	Fill lubrication systems	67
L455	Replace lube oil filters or strainers	67
M489	Replace fuel filters or strainers	67
T715	Monitor or adjust engine controls during operation	66
G258	Perform or practice cardiopulmonary resuscitation (CPR)	65
T711	Connect or disconnect generator set cables	64
M485	Prime or bleed fuel systems	64
T727	Place generator sets on line after power failures	63
G226	Adjust power generating equipment drive belts	63
G283	Verify phase rotation of generators	62
N517	Drain, flush, or clean cooling systems	61
G272	Replace power generating equipment drive belts	61
G241	Interpret wiring or schematic diagrams	61
M467	Drain water from fuel system components or items	60
G281	Set up or remove portable generators at remote locations	60
G237	Install electrical grounds	58
P561	Inspect or clean air intake filters or cleaners	58
M466	Drain fuel tanks	57
G257	Perform operator maintenance on vehicles	56
M481	Maintain fuel levels in storage tanks	56
T709	Analyze meter readings for load requirements	55
G234	Fabricate replacement gaskets	54
K410	Inspect or clean battery chargers	53
W939	Fire weapons such as 9mm caliber pistols or M-16 rifles	53
H287	Inspect automatic transfer panel components	52
P566	Replace air intake filters or cleaners	52

comparisons: (1) among TAFMS groups of the Electrical Power Production career ladder and a comparative sample of personnel from other Direct Support career ladders surveyed in 1993 (AFSCs 1T1X1, 2R0X1, and 2R1X1); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the SPECIALTY JOBS section of the report.

Table 17 compares first-enlistment (1-48 months' TAFMS), second-enlistment (49-96 months' TAFMS), and career (97+ months' TAFMS) group data to corresponding enlistment groups from other Direct Support AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 3E0X2 personnel compares with similar Air Force specialties. Electrical Power Production personnel reported very similar job satisfaction to members of the comparative sample. Overall, satisfaction for all three TAFMS groups in AFSC 3E0X2 is fairly high, with no serious satisfaction problems noted.

Comparison of job satisfaction indicator responses of the current survey TAFMS groups to TAFMS groups in the AFSC 542X2 1985 survey (see Table 18) indicates that generally the 1994 responses are higher than the 1985 responses of AFSC 542X2 respondents. Biggest improvements can be seen in the "Perceived Use of Training" and "Expressed Job Interest" categories for the 1-48 month TAFMS group.

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 19 presents job satisfaction data for the major jobs identified in the career ladder structure for AFSC 3E0X2. Perceived use of training for the Gasoline and Diesel Engines job was the lowest for any of the jobs identified.

IMPLICATIONS

From the standpoint of data gathered for this OSR, the AFSC 3E0X2 career ladder reflects a modestly diverse career ladder structure. Almost 62 percent of the members spend their time in a maintenance job, while the remaining members work in a supervisory, mobility, contingency, or a training job. Overall job progression is normal and shows a distinct pattern as one moves from the 3-skill level to the 7-skill level. *AFMAN 36-2108 Specialty Descriptions* broadly describe the maintenance jobs and tasks being performed. Job satisfaction is fairly high, and no serious problem areas were noted.

TABLE 17

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	3E0X2 (N=317)	COMP SAMPLE (N=767)	3E0X2 (N=200)	COMP SAMPLE (N=700)	3E0X2 (N=524)	COMP SAMPLE (N=1,514)
EXPRESSED JOB INTEREST:						
INTERESTING	75	66	64	72	78	76
SO-SO	14	22	22	17	14	14
DULL	11	12	14	11	7	9
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	79	70	80	79	86	86
NONE TO VERY LITTLE	20	30	20	20	14	14
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	86	90	80	83	81	79
NONE TO VERY LITTLE	14	9	20	17	19	21
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	74	72	69	75	74	75
NEUTRAL	12	16	14	10	9	8
DISSATISFIED	14	12	17	15	17	17
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	61	64	70	79	72	70
NO OR PROBABLY NO	39	36	30	21	6	10
WILL RETIRE	0	0	0	0	22	19

NOTE: Columns may not add to 100 percent due to rounding or nonresponse
Comparative data are from AFSCs 1T1X1, 2R0X1, and 2R1X1 surveyed in 1993

TABLE 18

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 3E0X2
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1993 3E0X2 (N=317)	1985 542X2 (N=643)	1993 3E0X2 (N=200)	1985 542X2 (N=349)	1993 3E0X2 (N=524)	1985 542X2 (N=877)
EXPRESSED JOB INTEREST:						
INTERESTING	75	65	64	72	78	74
SO-SO	14	21	22	15	14	15
DULL	11	13	14	12	7	10
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	79	72	80	75	86	83
NONE TO VERY LITTLE	20	28	20	25	14	17
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	86	77	80	73	81	80
NONE TO VERY LITTLE	14	23	20	27	19	20
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	74	69	69	68	74	73
NEUTRAL	12	13	14	10	9	11
DISSATISFIED	14	17	17	22	17	16
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	61	66	70	77	72	80
NO OR PROBABLY NO	39	33	30	22	6	8
WILL RETIRE	0	-	0	1	22	11

* Less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 19

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP (STG234)	GENERATOR SET & GAS & DIESEL (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
EXPRESSED JOB INTEREST:						
INTERESTING	67	75	78	79	76	76
SO-SO	19	19	11	14	12	15
DULL	14	6	11	5	12	8
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	79	89	89	87	81	85
NONE TO VERY LITTLE	21	10	11	13	19	15
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	86	82	78	85	80	85
NONE TO VERY LITTLE	14	18	22	15	20	15
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	70	74	78	77	74	74
NEUTRAL	9	16	0	8	10	11
DISSATISFIED	20	10	22	14	16	15
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	63	72	78	62	78	70
NO OR PROBABLY NO	31	24	22	16	8	22
WILL RETIRE	5	4	0	21	14	8
NO RESPONSE	0	0	0	1	0	0

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 19 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	MOBILITY AND CONTINGENCY	SUPV	TRNG	GASOLINE & DIESEL ENGINE	UPS
EXPRESSED JOB INTEREST:					
INTERESTING	60	86	70	88	92
SO-SO	40	11	0	12	0
DULL	0	3	20	0	8
PERCEIVED USE OF TALENTS:					
FAIRLY WELL TO PERFECT	90	91	80	88	92
NONE TO VERY LITTLE	10	8	20	12	8
PERCEIVED USE OF TRAINING:					
FAIRLY WELL TO PERFECT	80	86	60	51	91
NONE TO VERY LITTLE	20	14	40	49	8
SENSE OF ACCOMPLISHMENT FROM JOB:					
SATISFIED	80	81	80	75	92
NEUTRAL	0	7	0	13	0
DISSATISFIED	20	12	20	12	8
REENLISTMENT INTENTIONS:					
YES OR PROBABLY YES	90	67	60	63	50
NO OR PROBABLY NO	0	1	20	37	25
WILL RETIRE	10	32	20	0	25

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

APPENDIX A

REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

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TABLE A1

GENERATOR SET MAINTENANCE
(STG060, N=172)

TYPICAL TASKS		PERCENT
T730	Start or shut down generator sets	93
T726	Perform walkaround inspections of generator sets during operation	92
T724	Perform preoperational inspections of generator sets	90
T723	Perform postoperational inspections of generator sets	88
T732	Take or record engine indicator readings	83
G256	Perform general cleaning of electrical power production equipment	81
T725	Perform standby engine runups	80
L440	Change lubricating oil	78
T722	Perform generator set single unit operations	74
T728	Refuel generator sets or storage tanks	74
T727	Place generator sets on line after power failures	71
G277	Service or charge lead-acid-type batteries	70
G266	Replace batteries	69
G255	Perform corrosion control on electrical power production equipment	68
L443	Fill lubrication systems	65
T715	Monitor or adjust engine controls during operation	63
G235	Inspect power generating equipment drive belts	63
T713	Interpret meter readings	60
L455	Replace lube oil filters or strainers	60
G258	Perform or practice cardiopulmonary resuscitation (CPR)	54
G250	Monitor commercial power	52
T716	Monitor or adjust switchgear controls during operation	51
T714	Monitor or adjust associated power systems during operation	50
T733	Test generator sets using load banks	49
T719	Parallel generator sets manually	47
T720	Parallel generator sets with commercial power	47
T709	Analyze meter readings for load requirements	45

TABLE A2

GENERATOR SET MAINTENANCE AND MOBILITY OPERATIONS
(STG157, N=163)

TYPICAL TASKS		PERCENT
T730	Start or shut down generator sets	98
T726	Perform walkaround inspections of generator sets during operation	97
T728	Refuel generator sets or storage tanks	97
G256	Perform general cleaning of electrical power production equipment	96
T733	Test generator sets using load banks	96
T724	Perform preoperational inspections of generator sets	95
T722	Perform generator set single unit operations	95
G255	Perform corrosion control on electrical power production equipment	95
T711	Connect or disconnect generator set cables	95
T723	Perform postoperational inspections of generator sets	94
G235	Inspect power generating equipment drive belts	90
G277	Service or charge lead-acid-type batteries	90
G237	Install electrical grounds	87
T732	Take or record engine indicator readings	85
T725	Perform standby engine runups	85
T715	Monitor or adjust engine controls during operation	85
G226	Adjust power generating equipment drive belts	83
T713	Interpret meter readings	83
G272	Replace power generating equipment drive belts	83
T712	Determine fuel requirements for generator set operations	82
W939	Fire weapons, such as 9mm caliber pistols or M-16 rifles	74
W1001	Tear down, inspect, clean, and reassemble weapons, such as 9mm caliber pistols or M-16 rifles	70
W935	Erect tents	65
W994	Prepare personnel clothing for deployment	61
W946	Install tent lighting	60
W930	Don or doff chemical personal protective clothing	56

TABLE A3

GENERATOR SET AND GAS TURBINE MAINTENANCE
(STG213, N=9)

	TYPICAL TASKS	PERCENT
G256	Perform general cleaning of electrical power production equipment	100
T733	Test generator sets using load banks	100
T730	Start or shut down generator sets	100
T711	Connect or disconnect generator set cables	100
T715	Monitor or adjust engine controls during operation	100
T728	Refuel generator sets or storage tanks	100
J357	Calibrate Solar 750 kw gas turbine engine speed monitors	100
J378	Perform postoperational inspections of gas turbine engines	100
J396	Test Solar 750 kw gas turbine exhaust temperature monitors	100
J389	Replace gas turbine engine starting system components	100
J386	Replace gas turbine engine ignitors	89
T732	Take or record engine indicator readings	89
T722	Perform generator set single unit operations	89
T719	Parallel generator sets manually	89
J379	Perform preoperational inspections of gas turbine engines	89
T724	Perform preoperational inspections of generator sets	89
T726	Perform walkaround inspections of generator sets during operation	89
T723	Perform postoperational inspections of generator sets	89
J358	Calibrate Solar 750 kw gas turbine exhaust temperature monitors	89
J359	Calibrate Solar 750 kw gas turbine temperature monitors, other than gas turbine exhaust temperature monitors	89
J395	Test Solar 750 kw gas turbine engine speed monitors	89
J394	Test Solar 750 kw gas turbine control system circuits	89
J356	Calibrate Solar 750 kw gas turbine control system circuits	89
J363	Clean gas turbine intake air systems	89
J374	Isolate malfunctions within gas turbine engine control circuits	89

TABLE A4

GENERATOR SET AND AUXILIARY EQUIPMENT MAINTENANCE
(STG234, N=111)

TYPICAL TASKS		PERCENT
T722	Perform generator set single unit operations	98
T726	Perform walkaround inspections of generator sets during operation	97
T730	Start or shut down generator sets	97
T724	Perform preoperational inspections of generator sets	96
T711	Connect or disconnect generator set cables	96
T723	Perform postoperational inspections of generator sets	95
T728	Refuel generator sets or storage tanks	95
T733	Test generator sets using load banks	93
T713	Interpret meter readings	92
T725	Perform standby engine runups	89
T712	Determine fuel requirements for generator set operations	89
T715	Monitor or adjust engine controls during operation	89
K400	Adjust battery chargers	89
T727	Place generator sets on line after power failures	86
T709	Analyze meter readings for load requirements	86
K410	Inspect or clean battery charges	76
K426	Replace battery charger components or units	70
K402	Adjust voltage regulators	61
K432	Replace load bank components	61
K416	Isolate malfunctions within battery charges	60

TABLE A5

GENERATOR SET AND GAS AND DIESEL ENGINE MAINTENANCE
(STG104, N=74)

TYPICAL TASKS		PERCENT
T726	Perform walkaround inspections of generator sets during operation	92
T730	Start or shut down generator sets	91
T724	Perform preoperational inspections of generator sets	88
T723	Perform postoperational inspections of generator sets	88
I313	Inspect engine safety circuits or protective devices	84
T713	Interpret meter readings	81
T732	Take or record engine indicator readings	80
T716	Monitor or adjust switchgear controls during operation	80
T715	Monitor or adjust engine controls during operation	78
T728	Refuel generator sets or storage tanks	77
I308	Inspect crankshafts	76
T722	Perform generator set single unit operations	74
I338	Replace engine seals or gaskets	73
I298	Adjust engine safety circuits or protective devices	73
I297	Adjust air start system components	70
I319	Isolate malfunctions within engine safety circuits or protective devices	69
I311	Inspect engine blocks	65
I307	Inspect camshafts	65
I317	Isolate malfunctions within air start systems	65
I348	Take or record firing or compression readings	64
I312	Inspect engine crankcases	64
I316	Inspect valves and valve spring assemblies	61
I329	Replace air start system components	61

TABLE A6

AIRCRAFT ARRESTING SYSTEMS MAINTENANCE
(GRP047, N=264)

TYPICAL TASKS		PERCENT
V809	Inspect AAS tape connector wear	100
V810	Inspect AAS tape stack heights	97
V778	Adjust AAS cam zero indexes	96
V793	Crop AAS tapes	95
V787	Bleed AAS hydraulic systems	94
V786	Attach or install AAS hook cables or pendants	94
V807	Inspect AAS nitrogen systems	93
V777	Adjust AAS cam control valve clearances	93
V815	Install AAS hook cables	92
V865	Refill AAS nitrogen systems	92
V799	Fill AAS hydraulic systems	91
V814	Inspect runway surface beneath AAS hook cables	91
V863	Recharge AAS accumulators	90
V883	Replace AAS hook cable support discs	89
V864	Reeve AAS tape connectors	89
V796	Determine replacement of AAS hook cables	88
V808	Inspect AAS phenolic pads	88
V779	Adjust AAS drive chains	88
V798	Determine replacement of AAS tapes using regime charts	87
V869	Replace AAS cables	87
V847	Perform after-arrestment inspections of AASs	86
V884	Replace AAS hook cables or pendants	86
V812	Inspect or clean AAS fluid couplings	86
V859	Position AAS hook cable supports	85
V914	Synchronize AASs	85
V804	Inspect AAS fair-lead tubes for tape twist	85
V853	Perform periodic maintenance inspections of AASs	84
V781	Adjust AAS reel side plates	83

TABLE A7

MOBILITY AND CONTINGENCY OPERATIONS
(STG186, N=10)

TYPICAL TASKS		PERCENT
W992	Prepare equipment for deployments	100
W959	Operate M-series vehicles for contingency exercises or operations	100
W964	Palletize contingency equipment	100
W920	Conduct mobility exercise or deployment site surveys	100
B38	Counsel personnel on personal or military-related matters	100
C63	Conduct performance feedback worksheet (PFW) evaluation sessions	100
W963	Pack contingency equipment	90
W961	Operate refueling vehicles for contingency exercises or operations	90
W965	Participate in convoy exercises	90
A10	Determine or establish work priorities	90
W994	Prepare personal clothing for deployments	90
C93	Write EPRs	90
A26	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	90
C88	Perform quality control inspections of electrical power production equipment	90
W958	Operate forklifts for contingency exercises or operations	90
W988	Practice communications security (COMSEC) during contingency exercises or operations	90
W943	Inspect packed or palletized mobility or contingency equipment prior to transport	90
A33	Schedule personnel for leaves, passes, or temporary duty (TDY)	90
D100	Assign on-the-job training (OJT) trainers or supervisors	90
W1003	Transport mobility or contingency equipment to or from deployed locations	80

TABLE A8

SUPERVISION
(STG098, N=73)

TYPICAL TASKS		PERCENT
B38	Counsel personnel on personal or military-related matters	100
C93	Write EPRs	97
A20	Establish performance standards for subordinates	96
C63	Conduct performance feedback worksheet (PFW) evaluation sessions	92
A10	Determine or establish work priorities	90
B57	Supervise Electrical Power Production Specialists (AFSC 54252)	90
B37	Conduct supervisory orientations of newly assigned personnel	90
C96	Write recommendations for awards or decorations	89
A2	Assign personnel to work crews	88
A33	Schedule personnel for leaves, passes, or temporary duty (TDY)	88
C64	Conduct self-inspections	86
A1	Assign maintenance and repair work	84
D100	Assign on-the-job training (OJT) trainers or supervisors	84
A26	Participate in meetings, such as staff meetings, briefings, conferences, or workshops	82
A24	Establish work schedules	82
C76	Evaluate personnel for compliance with performance standards or technical orders	82
A3	Assign sponsors for newly assigned personnel	82
A9	Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies	81
B52	Interpret policies, directives, or procedures for subordinates	81
A19	Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)	79

TABLE A9

TRAINING
(STG081, N=5)

	TYPICAL TASKS	PERCENT
D101	Brief unit staff personnel on training programs or matters	80
D99	Administer or score tests	80
D122	Evaluate progress of trainees	80
D121	Evaluate personnel for training needs	80
D138	Write test questions	80
D137	Write or revise training materials	80
D134	Schedule personnel for training	80
D139	Write training reports	80
D128	Plan safety or security training	80
D136	Track effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or qualification training	80
D127	Plan or schedule training, such as OJT, qualification training, or ancillary training	80
D126	Maintain training records, charts, graphs, or files	80
D123	Evaluate training materials or aids	60
D106	Conduct safety or security training	60
D108	Construct or develop training aids	60
D109	Counsel trainees on training progress	60
D124	Evaluate training methods or techniques	60
D131	Prepare specialty training packages (STPs) or quality training packages (QTPs)	60
D133	Procure training aids, space, or equipment	60
D107	Conduct training conferences or briefings	60
D130	Prepare lesson plans	60

TABLE A10

GASOLINE AND DIESEL ENGINE MAINTENANCE
(STG120, N=8)

TYPICAL TASKS		PERCENT
I301	Assemble or disassemble engines	100
I323	Measure crankshaft end-thrust clearances	100
I307	Inspect camshafts	100
I310	Inspect cylinder liners	100
I308	Inspect crankshafts	100
I311	Inspect engine blocks	100
I312	Inspect engine crankcases	100
I309	Inspect cylinder heads	100
I325	Measure cylinder liners	100
I321	Measure connecting rod and main bearing clearances	100
I302	Clean cylinder liners	88
I334	Replace cylinder heads	88
I324	Measure crankshaft wear	88
I303	Clean engine blocks	88
I314	Inspect pistons	88
I304	Clean engine crankcases	88
I313	Inspect engine safety circuits or protective devices	88
I335	Replace cylinder liners	88
I322	Measure connecting rod bolts for stretch	88
I341	Replace piston rings	88
I338	Replace engine seals or gaskets	75
I330	Replace camshafts	75
I326	Measure gear backlash	75
I332	Replace connecting rod bearings	75
I342	Replace pistons	75
I343	Replace rocker arm bushings	75
I348	Take or record firing or compression readings	75

TABLE A11

UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE
(STG153, N=12)

	TYPICAL TASKS	PERCENT
S684	Perform single unit operations of SSUPSs	100
S682	Perform periodic maintenance on SSUPSs	100
S700	Shut down or start up SSUPSs	100
S683	Perform PMIs of SSUPS battery banks	100
S702	Test SSUPS batteries	100
S672	Isolate malfunctions within SSUPS inverters	100
S670	Isolate malfunctions within SSUPS control circuits	100
S675	Isolate malfunctions within SSUPS printed circuit boards	100
S676	Isolate malfunctions within SSUPS rectifier/chargers	100
S669	Isolate malfunctions within SSUPS battery banks	100
S677	Isolate malfunctions within SSUPS static switches	100
S660	Align control circuitry of solid-state uninterruptible power systems (SSUPSs)	92
S690	Replace SCRs in SSUPSs	92
B43	Direct operation or maintenance of uninterruptible power systems (UPSs)	92
S671	Isolate malfunctions within SSUPS filter bank components	92
S704	Transfer SSUPS bypass to maintenance bypass	92
S674	Isolate malfunctions within SSUPS power supplies	92
S703	Test SSUPSs using load banks	83
S692	Replace SSUPS control circuit components	83
S696	Replace SSUPS printed circuit boards	83
S695	Replace SSUPS printed circuit board components	83
S679	Perform inspections of SSUPS battery banks, other than PMIs	75
S705	Transfer maintenance bypass to SSUPS bypass	75
S673	Isolate malfunctions within SSUPS parallel cabinets	75
S701	Solder or desolder SSUPS control circuit wiring	75
S708	Transfer to SSUPSs, other than bypass	67
S691	Replace SSUPS capacitor bank components	67
S680	Perform parallel operations of SSUPSs	67
S693	Replace SSUPS filter bank components	67

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APPENDIX B

LISTING OF MODULES AND TASK STATEMENTS

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These Task Modules (TMs) were developed in order to organize and summarize the extensive task information for this specialty. The TMs were derived by statistical clustering of the tasks in terms of which tasks are performed by the same incumbents. For example, if an individual performs one Transfer Panel task, the probability is very high that he or she also will perform other Transfer Panel tasks. Thus, the group of Transfer Panel tasks can be considered a "natural group" of associated or related tasks (see TM 0004 below). The statistical clustering generally approximates these "natural groupings."

The title of each TM is our best estimate as to the generic subject content of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

0001	Generator Sets	
1	G235	Inspect power generating equipment drive belts
2	G241	Interpret wiring or schematic diagrams
3	G255	Perform corrosion control on electrical power production equipment
4	G256	Perform general cleaning of electrical power production equipment
5	G266	Replace batteries
6	G277	Service or charge lead-acid-type batteries
7	L440	Change lubricating oil
8	L443	Fill lubrication systems
9	L455	Replace lube oil filters or strainers
10	M470	Inspect or clean fuel filters or strainers
11	M481	Maintain fuel levels in storage tanks
12	M485	Prime or bleed fuel systems
13	M489	Replace fuel filters or strainers
14	N511	Add antifreeze to cooling systems
15	R639	Replace fuses
16	T709	Analyze meter readings for load requirements
17	T711	Connect or disconnect generator set cables
18	T713	Interpret meter readings
19	T714	Monitor or adjust associated power systems during operation
20	T715	Monitor or adjust engine controls during operation
21	T722	Perform generator set single unit operations
22	T723	Perform postoperational inspections of generator sets
23	T724	Perform preoperational inspections of generator sets
24	T725	Perform standby engine runups
25	T726	Perform walkaround inspections of generator sets during operation
26	T727	Place generator sets on line after power failures
27	T728	Refuel generator sets or storage tanks
28	T730	Start or shut down generator sets
29	T732	Take or record engine indicator readings
30	T733	Test generator sets using load banks

0002	Lighting Equipment	
1	G242	Maintain emergency lighting equipment
2	G247	Maintain portable lighting equipment
3	G262	Position emergency lighting equipment
4	G263	Position portable lighting equipment

0003	Fuel Systems	
1	M473	Inspect or clean hand-priming pumps
2	M474	Install in-line shutoff valves
3	M475	Isolate malfunctions within automatic fuel transfer systems
4	M492	Replace fuel tank floats
5	M493	Replace fuel tanks
6	M494	Replace fuel transfer pumps

0004	Transfer Panels	
1	H284	Adjust automatic transfer panel components
2	H286	Determine compatibility between automatic transfer panels and generator sets
3	H289	Install automatic transfer panels
4	H290	Isolate malfunctions within automatic transfer panels
5	H291	Modify generator starting systems for compatibility with automatic transfer panels
6	H293	Remove, replace, or reinstall automatic transfer panels
7	H294	Replace automatic transfer panel components
8	H295	Rewire automatic transfer panels
9	H296	Transfer commercial power to bypass automatic transfer panels

0005	Mobility and Contingency	
1	W929	Dig trenches
2	W930	Don or doff chemical warfare personal protective clothing
3	W933	Erect camouflage nettings
4	W935	Erect tents
5	W936	Establish blackout procedures
6	W939	Fire weapons, such as 9mm caliber pistols or M-16 rifles
7	W940	Identify chemical warfare agents
8	W942	Inspect mobility bags or kits
9	W943	Inspect packed or palletized mobility or contingency equipment prior to transport
10	W946	Install tent lighting
11	W955	Operate cargo trucks for contingency exercises or operations
12	W956	Operate chemical warfare personnel protective equipment
13	W958	Operate forklifts for contingency exercises or operations
14	W959	Operate M-series vehicles for contingency exercises or operations
15	W960	Operate portable radios
16	W961	Operate refueling vehicles for contingency exercises or operations
17	W962	Operate tent heaters
18	W963	Pack contingency equipment

0005	Mobility and Contingency (Continued)	
19	W964	Palletize contingency equipment
20	W965	Participate in convoy exercises
21	W968	Perform camp cantonment construction techniques
22	W969	Perform cover and concealment techniques for work party security
23	W973	Perform decontamination procedures for chemical warfare agents
24	W975	Perform explosive ordnance reconnaissance
25	W976	Perform first aid lifesaving techniques
26	W978	Perform military field sanitation techniques
27	W979	Perform personal hygiene techniques under field conditions
28	W983	Perform site security
29	W988	Practice communications security (COMSEC) during contingency exercises or operations
30	W989	Practice convoy techniques for work party security
31	W990	Practice operations security (OPSEC) during contingency exercises or operations
32	W991	Practice self-protection from extreme weather
33	W992	Prepare equipment for deployments
34	W994	Prepare personal clothing for deployments
35	W998	Set up or tear down shelters
36	W1001	Tear down, inspect, clean, and reassemble weapons, such as 9mm caliber pistols or M-16 rifles
37	W1003	Transport mobility or contingency equipment to or from deployed locations

0006	Protective Clothing and Equipment	
1	X1010	Clean personnel protective equipment
2	X1011	Clean protective clothing
3	X1015	Inspect condition and cleanliness of personal safety equipment
4	X1016	Inspect condition and cleanliness of protective clothing
5	X1019	Inspect emergency showers
6	X1022	Inspect permanently-installed emergency eyewashers
7	X1028	Replace personal safety equipment components, such as respirators, face shields, or ear protectors

0007	Safety and Environmental	
1	E178	Monitor hazardous materials programs
2	X1005	Annotate master log books to document start and fill dates on hazardous waste drums
3	X1010	Clean personnel protective equipment
4	X1011	Clean protective clothing
5	X1013	Dispose of hazardous waste materials
6	X1014	Fill portable emergency eyewashers
7	X1015	Inspect condition and cleanliness of personal safety equipment
8	X1016	Inspect condition and cleanliness of protective clothing
9	X1019	Inspect emergency showers
10	X1020	Inspect grounding of hazardous waste drums or containers
11	X1021	Inspect markings or decals on waste or acid drums

0007	Safety and Environmental (Continued)	
12	X1022	Inspect permanently installed emergency eyewashers
13	X1023	Inspect portable emergency eyewashers
14	X1024	Inspect stored hazardous waste materials
15	X1025	Maintain hazardous waste documentation records or log books
16	X1026	Maintain hazardous waste spill kits
17	X1028	Replace personal safety equipment components, such as respirators, face shields, or ear protectors
18	X1030	Store hazardous waste materials
19	X1032	Transport hazardous waste materials

0008	Hazardous Waste	
1	E178	Monitor hazardous materials programs
2	X1005	Annotate master log books to document start and fill dates on hazardous waste drums
3	X1013	Dispose of hazardous waste materials
4	X1020	Inspect grounding of hazardous waste drums or containers
5	X1021	Inspect markings or decals on waste or acid drums
6	X1024	Inspect stored hazardous waste materials
7	X1025	Maintain hazardous waste documentation records or log books
8	X1026	Maintain hazardous waste spill kits
9	X1030	Store hazardous waste materials
10	X1032	Transport hazardous waste materials

0009	Compressors	
1	K404	Clean air compressor filters, strainers, or breathers
2	K407	Inspect air compressor components
3	K409	Inspect or clean air compressor relief valves
4	K413	Inspect or clean electric motors
5	K415	Inspect power plant air distribution systems
6	K419	Lubricate electric motors
7	K423	Replace air compressor filters, strainers, or breathers
8	O537	Change governor oil

0010	First Line Supervision	
1	A1	Assign maintenance and repair work
2	A2	Assign personnel to work crews
3	A3	Assign sponsors for newly assigned personnel
4	A5	Coordinate maintenance or supply problems with appropriate agencies
5	A6	Coordinate power transfers with using agencies
6	A7	Determine electrical generating requirements
7	A8	Determine maintenance requirements for equipment or facilities
8	A9	Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies
9	A10	Determine or establish work priorities

0010	First Line Supervision (Continued)	
10	A11	Determine replacement or reuse of engine components
11	A12	Determine replacement or reuse of generator sets
12	A13	Develop equipment utilization or maintenance schedules
13	A16	Develop self-inspection program checklists
14	A19	Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)
15	A20	Establish performance standards for subordinates
16	A21	Establish procedures for accountability of equipment, tools, or supplies
17	A23	Establish work methods, production controls, or inspection procedures
18	A24	Establish work schedules
19	A26	Participate in meetings, such as staff meetings, briefings, conferences, or workshops
20	A30	Plan or schedule inspections or maintenance of electrical power production systems
21	A31	Plan or schedule work assignments
22	A33	Schedule personnel for leaves, passes, or temporary duty (TDY)
23	B35	Adjust daily maintenance plans to meet operational commitments
24	B37	Conduct supervisory orientations of newly assigned personnel
25	B38	Counsel personnel on personal or military-related matters
26	B48	Implement work methods, production controls, or inspection procedures
27	B49	Initiate actions required due to substandard performance of personnel
28	B52	Interpret policies, directives, or procedures for subordinates
29	B56	Supervise Apprentice Electrical Power Production Specialists (AFSC 54232)
30	B57	Supervise Electrical Power Production Specialists (AFSC 54252)
31	C60	Analyze maintenance or inspection reports
32	C61	Analyze workload requirements
33	C63	Conduct performance feedback worksheet (PFW) evaluation sessions
34	C64	Conduct self-inspections
35	C73	Evaluate maintenance of equipment, tools, supplies, or workspace
36	C76	Evaluate personnel for compliance with performance standards or technical orders
37	C77	Evaluate personnel for promotion, demotion, reclassification, or special awards
38	C93	Write EPRs
39	C96	Write recommendations for awards or decorations
40	D100	Assign on-the-job training (OJT) trainers or supervisors
41	D104	Conduct OJT
42	D109	Counsel trainees on training progress
43	D121	Evaluate personnel for training needs
44	D122	Evaluate progress of trainees
45	D126	Maintain training records, charts, graphs, or files

0011	OJT Training	
1	D110	Determine training requirements, such as OJT or resident course training requirements
2	D115	Direct or implement training programs
3	D127	Plan or schedule training, such as OJT, qualification training, or ancillary training

0011	OJT Training (Continued)	
4	D129	Prepare job qualification standards (JQSs)
5	D134	Schedule personnel for training
6	D136	Track effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or qualification training

0012	Supply and Administration	
1	A18	Establish benchstock levels
2	E142	Coordinate obtaining parts with base supply
3	E146	Establish requirements for equipment, tools, or supplies
4	E147	Establish supply requirements
5	E151	Evaluate serviceability of equipment, tools, or supplies
6	E152	Evaluate supply problems
7	E156	Inspect equipment, tools, or supplies, other than CTKs
8	E158	Inventory equipment, tools, or supplies, other than CTKs
9	E162	Maintain benchstock levels
10	E169	Maintain organizational equipment or supply records
11	E173	Maintain property custody authority/custody receipt listings (CA/CRLs)
12	E184	Prepare requests for parts
13	E185	Prepare requisitions for equipment or supplies
14	E186	Prepare requisitions for local purchase of supply items
15	E189	Research microfiche files for supply requisition data
16	E190	Research or verify status of materials
17	E191	Research technical orders to identify components or items of equipment
18	E192	Review CA/CRLs
19	E196	Turn in equipment, tools, or supplies
20	E199	Validate supply transaction listings, such as D04, D18, or D19
21	E202	Write letters of justification for supply-related matters

0013	Supervision and Management	
1	A4	Coordinate host-tenant service agreements with appropriate agencies
2	A14	Develop inputs to mobility, disaster preparedness, or unit emergency or alert plans
3	A15	Develop organizational or functional charts
4	A17	Draft budget requirements
5	A22	Establish special parts levels for critical facilities
6	A25	Forecast equipment requirements for local electrical power production facilities
7	A29	Plan or prepare briefings
8	A34	Write job descriptions
9	B36	Conduct staff meetings or briefings
10	B39	Direct contingency or tactical team activities
11	B44	Draft recommendations for policy changes in personnel or equipment
12	B45	Implement cost-reduction programs
13	B47	Implement suggestion programs
14	B50	Initiate personnel action requests
15	B53	Maintain or update contingency plans

0013	Supervision and Management (Continued)	
16	B55	Supervise civilian personnel
17	B58	Supervise Electrical Power Production Technicians (AFSC 54272)
18	C65	Evaluate budget requirements
19	C69	Evaluate job descriptions
20	C74	Evaluate mobility, disaster preparedness, or unit emergency or alert plans
21	C78	Evaluate procedures for storage, inventory, or inspection of property items
22	C80	Evaluate suggestions
23	C84	Indorse enlisted performance reports (EPRs)
24	C97	Write replies to inspection reports
25	D135	Select personnel for specialized training

0014	Supply	
1	E155	Inspect consolidated tool kits (CTKs)
2	E157	Inventory CTKs
3	E159	Issue or log turn-ins of CTKs
4	E160	Issue or log turn-ins of equipment, tools, or supplies, other than CTKs
5	E165	Maintain due-in-from-maintenance (DIFM) lists
6	E181	Prepare lists of parts received
7	E187	Process DIFM items
8	E197	Validate DIFM transaction rosters
9	E198	Validate special supply levels, such as barrier repair parts or AAS brakes

0015	Aircraft Arresting Systems	
1	C87	Perform quality control inspections of aircraft arresting systems (AASs)
2	D102	Conduct AAS proficiency training
3	D103	Conduct fire department training on AASs
4	E177	Make entries on reports of aircraft arresting system (AAS) contacts
5	V776	Adjust AAS breakaway tensions
6	V777	Adjust AAS cam control valve clearances
7	V778	Adjust AAS cam zero indexes
8	V779	Adjust AAS drive chains
9	V780	Adjust AAS nets or webbings
10	V781	Adjust AAS reel side plates
11	V782	Adjust AAS tape stack heights
12	V784	Align AAS nets or webbings with stanchions
13	V785	Assemble or disassemble AAS sheaves
14	V786	Attach or install AAS hook cables or pendants
15	V787	Bleed AAS hydraulic systems
16	V788	Brief pilots on AAS procedures
17	V789	Center AAS clutch accumulator pistons
18	V790	Change oil in AAS fluid couplings
19	V791	Clear AAS water drains
20	V792	Coordinate reconditioning of runway surface beneath AAS hook cables with appropriate agencies

21	V793	Crop AAS tapes
22	V794	Determine ethylene glycol and water mixtures for AASs
23	V795	Determine heater power settings for AASs
24	V796	Determine replacement of AAS hook cables
25	V797	Determine replacement of AAS nets or webbings
26	V798	Determine replacement of AAS tapes using regime charts
27	V799	Fill AAS hydraulic systems
28	V800	Inspect AAS air lines for leaks
29	V801	Inspect AAS coolant tank fluid levels
30	V802	Inspect AAS exhaust fans
31	V803	Inspect AAS fair-lead beams for tape twist
32	V804	Inspect AAS fair-lead tubes for tape twist
33	V805	Inspect AAS hydraulic power units (HPUs)
34	V806	Inspect AAS J-hook interconnectors
35	V807	Inspect AAS nitrogen systems
36	V808	Inspect AAS phenolic pads
37	V809	Inspect AAS tape connector wear
38	V810	Inspect AAS tape stack heights
39	V811	Inspect or clean AAS fair-lead beam rollers or bearings
40	V812	Inspect or clean AAS fluid couplings
41	V813	Inspect or clean AAS sheave bearings
42	V814	Inspect runway surface beneath AAS hook cables
43	V815	Install AAS hook cables
44	V816	Install MA-1A webbings
45	V817	Install or remove mobile aircraft arresting systems (MAASs)
46	V819	Isolate malfunctions within AAS clutch assemblies
47	V820	Isolate malfunctions within AAS control panel indicator circuits
48	V821	Isolate malfunctions within AAS coolant systems
49	V822	Isolate malfunctions within AAS energy absorber framework
50	V823	Isolate malfunctions within AAS energy absorber hydraulic systems
51	V824	Isolate malfunctions within AAS energy absorber units
52	V825	Isolate malfunctions within AAS energy absorbers
53	V826	Isolate malfunctions within AAS heaters
54	V827	Isolate malfunctions within AAS hydraulic systems
55	V828	Isolate malfunctions within AAS hydraulic trailer systems
56	V829	Isolate malfunctions within AAS limit switches
57	V831	Isolate malfunctions within AAS pneumatic systems
58	V832	Isolate malfunctions within AAS rewind systems
59	V833	Isolate malfunctions within AAS runway control circuits
60	V834	Isolate malfunctions within AAS support box components
61	V835	Isolate malfunctions within AAS tower control circuits
62	V836	Isolate malfunctions within AAS trailer braking systems
63	V837	Isolate malfunctions within AAS trailer suspension systems
64	V838	Lubricate AAS sheave bearings
65	V839	Maintain AAS pit sump pumps
66	V840	Measure AAS B-52 break wear

67	V841	Measure AAS bliss break wear
68	V842	Overhaul AAS main stanchions
69	V843	Overhaul AAS tub assemblies
70	V844	Overhaul AASs
71	V845	Perform AAS off-center engagement rewind procedures
72	V846	Perform AAS rewind procedures, other than off-center engagement rewind procedures
73	V847	Perform after-arrestment inspections of AASs
74	V848	Perform after-arrestment rewind procedures of AASs
75	V849	Perform alignment inspections of AASs
76	V850	Perform annual certifications of AASs
77	V851	Perform certifications of AASs, other than annual
78	V852	Perform expeditionary installations of AASs
79	V853	Perform periodic maintenance inspections of AASs
80	V854	Perform permanent installations of AASs
81	V855	Perform pressure checks of AAS hydraulic system relief valves
82	V856	Perform scheduled inspections of AASs
83	V857	Perform semipermanent installations of AASs
84	V858	Perform TCTO modifications of AASs
85	V859	Position AAS hook cable supports
86	V860	Proof load (stretch) AAS tapes
87	V861	Proof test AAS hydraulic systems
88	V862	Raise or lower AAS nets or webbings manually
89	V863	Recharge AAS accumulators
90	V864	Reeve AAS tape connectors
91	V865	Refill AAS nitrogen systems
92	V866	Remove or reinstall BAK-9 aircraft arresting gears
93	V867	Replace AAS automobile tire casings
94	V868	Replace AAS brake assemblies
95	V869	Replace AAS cables
96	V870	Replace AAS clutch assemblies
97	V871	Replace AAS coolant system components
98	V872	Replace AAS energy absorber components
99	V873	Replace AAS energy absorber framework components
100	V874	Replace AAS energy absorber hydraulic system components
101	V875	Replace AAS energy absorber unit components
102	V876	Replace AAS exhaust fans
103	V877	Replace AAS fair-lead beam rollers or bearings
104	V878	Replace AAS fluid couplings
105	V879	Replace AAS gasoline rewind engines
106	V880	Replace AAS gauges
107	V881	Replace AAS gear reducers
108	V882	Replace AAS heater components
109	V883	Replace AAS hook cable support discs
110	V884	Replace AAS hook cables or pendants
111	V885	Replace AAS hydraulic system components
112	V886	Replace AAS net or webbing assemblies

0015	Aircraft Arresting Systems (Continued)	
113	V887	Replace AAS net or webbing system anchor straps
114	V890	Replace AAS phenolic pads
115	V891	Replace AAS pneumatic components
116	V892	Replace AAS reel side plates
117	V893	Replace AAS relief valves
118	V894	Replace AAS rewind motors
119	V895	Replace AAS rewind system components
120	V896	Replace AAS runway control circuits
121	V897	Replace AAS shear pins
122	V898	Replace AAS sheave bearings
123	V899	Replace AAS sheaves
124	V900	Replace AAS support box components
125	V901	Replace AAS tape cleaning brushes
126	V902	Replace AAS tape connectors
127	V903	Replace AAS tapes
128	V904	Replace AAS tower control circuits
129	V905	Replace electrical wiring in AAS circuits
130	V906	Replace MA-1A intermediate stanchion components
131	V907	Replace MA-1A main stanchion components
132	V908	Replace MA-1A main stanchions
133	V909	Replace MAAS hydraulic trailer system components
134	V910	Replace MAAS trailer braking system components
135	V911	Replace MAAS trailer suspension system components
136	V913	Reset AASs after arrestments
137	V914	Synchronize AASs
138	V915	Take or record AAS gauge readings after arrestments
139	V916	Tie down AAS arresting cables
140	V917	Turn AAS tapes end-for-end
141	W918	Assemble AM-2 matting for rapid runway repairs
142	W924	Construct fiberglass reinforced polyurethane (FRP) runway repairs
143	W932	Erect bare base structures
144	W944	Install airfield lighting
145	W947	Lay AM-2 matting for aircraft parking revetments
146	W948	Lay AM-2 matting for surfaces, other than runways or aircraft parking
147	W950	Maintain airfield lighting
148	W957	Operate dump trucks for contingency exercises or operations
149	W985	Perform spall silikal repairs
150	W1000	Tear down bare base structures

0016	Governors	
1	O532	Adjust governor controls
2	O534	Adjust governor linkages
3	O535	Adjust overspeed trip devices
4	O536	Adjust stability and gain of electronic governors
5	O539	Flush governor oil systems

0016	Governors (Continued)	
6	O543	Isolate malfunctions within electronic governors
7	O544	Isolate malfunctions within hydraulic governors
8	O547	Perform compensation adjustments on governors
9	O549	Replace electrical governor components
10	O551	Replace governors
11	O552	Replace overspeed trip devices

0017	Switchgear	
1	R618	Isolate malfunctions within control switches
2	R619	Isolate malfunctions within electrical protective relays
3	R620	Isolate malfunctions within instrument metering circuits
4	R621	Isolate malfunctions within instrument meters
5	R622	Isolate malfunctions within solid-state voltage regulators
6	R623	Isolate malfunctions within switchgear circuits
7	R627	Perform periodic maintenance on circuit breakers
8	R628	Perform periodic maintenance on control switches
9	R629	Perform periodic maintenance on electrical protective relays
10	R630	Perform periodic maintenance on solid-state voltage regulators
11	R632	Perform periodic maintenance on switchgear relays
12	R636	Replace circuit breakers
13	R637	Replace control switches
14	R638	Replace electrical protective relays
15	R642	Replace silicon controlled rectifiers (SCRs)
16	R643	Replace solid-state voltage regulators
17	R645	Replace switchgear components, such as diodes or relays

0018	Cooling Systems	
1	L439	Analyze oil seal failures
2	N512	Add rust inhibitor to cooling systems
3	N513	Adjust cooling system chemical levels
4	N514	Adjust cooling system temperature regulating valves
5	N516	Clean cooling system heat exchangers
6	N522	Lubricate cooling system components
7	N524	Overhaul cooling system components, such as pumps, radiators, or heat exchangers
8	N525	Replace cooling system heat exchangers or radiators
9	N526	Replace cooling system temperature regulating valves
10	N529	Replace electric coolant heater components
11	N530	Test cooling system chemical levels

0019	Lubricating Systems Inspections	
1	L444	Inspect lube oil preheaters
2	L446	Inspect or clean lube oil heat exchangers
3	L447	Inspect or clean lube oil pump strainers

0019	Lubricating Systems Inspections (Continued)	
4	L448	Inspect or clean lube oil sumps
5	L449	Inspect or clean lube oil tanks
6	L452	Maintain lube oil preheaters

0020	Fuel Injectors	
1	M461	Adjust fuel injection pump pressure
2	M463	Adjust or calibrate fuel injectors
3	M490	Replace fuel injector components
4	M498	Replace individual fuel injectors
5	M506	Test fuel injectors

0021	Air Intake	
1	P558	Inspect emergency air shutoffs
2	P562	Inspect or clean air intake silencers
3	P564	Inspect or clean intake or exhaust system intercoolers
4	P565	Maintain intake air ducts
5	P567	Replace air intake silencers
6	P574	Test emergency air shutoffs

0022	Engines	
1	I299	Adjust piston ring-end gaps
2	I300	Align crankshafts
3	I301	Assemble or disassemble engines
4	I302	Clean cylinder liners
5	I303	Clean engine blocks
6	I304	Clean engine crankcases
7	I305	Grind or reface valve faces, valve stems, or valve seats
8	I306	Hone engine cylinders
9	I307	Inspect camshafts
10	I308	Inspect crankshafts
11	I309	Inspect cylinder heads
12	I310	Inspect cylinder liners
13	I311	Inspect engine blocks
14	I312	Inspect engine crankcases
15	I314	Inspect pistons
16	I315	Inspect thrust bearings
17	I316	Inspect valves and valve spring assemblies
18	I321	Measure connecting rod and main bearing clearances
19	I322	Measure connecting rod bolts for stretch
20	I323	Measure crankshaft end-thrust clearances
21	I324	Measure crankshaft wear
22	I325	Measure cylinder liners
23	I326	Measure gear backlash

0022	Engines (Continued)	
24	I327	Measure piston ring-end gaps
25	I328	Regrout or chock diesel engines
26	I330	Replace camshafts
27	I331	Replace connecting rod assemblies
28	I332	Replace connecting rod bearings
29	I333	Replace crankshafts
30	I334	Replace cylinder heads
31	I335	Replace cylinder liners
32	I340	Replace main bearings
33	I341	Replace piston rings
34	I342	Replace pistons
35	I343	Replace rocker arm bushings
36	I344	Replace rocker arm shafts
37	I345	Replace valve seats
38	I346	Replace valves and valve spring assemblies
39	I347	Take or record cylinder pressure readings
40	I348	Take or record firing or compression readings
41	I350	Time camshafts

0023	Power Plant	
1	U747	Install or remove engines for power plants
2	U757	Perform break-in operations of overhauled power plant equipment
3	U760	Perform depot-level rebuilding of power plant prime mover components
4	U764	Perform scheduled overhaul inspections of prime power plants, such as 8,000-hour and above
5	U768	Remove or relocate power plant generator assemblies
6	U773	Rig hoisting devices for installation or removal of heavy power plant equipment

0024	Altenators and Exciters	
1	Q592	Isolate malfunctions within alternators
2	Q593	Isolate malfunctions within exciters
3	Q599	Replace alternator reconnection panel components
4	Q600	Replace alternators
5	Q603	Replace exciter solid-state components, such as diodes, armatures, or surge protectors
6	Q605	Test alternator solid-state components
7	Q606	Test exciter solid-state components
8	Q607	Test insulation resistance of alternator windings
9	Q608	Test insulation resistance of exciter windings

0025	Circuit Breakers	
1	R611	Adjust circuit breaker contacts
2	R613	Adjust electrical circuit breakers
3	R615	Adjust mechanical circuit breakers
4	R635	Replace circuit breaker contacts

0026	Test Switchgear	
1	R651	Test directional overcurrent relays
2	R652	Test overcurrent relays, other than directional
3	R653	Test overfrequency relays
4	R654	Test overvoltage relays
5	R655	Test percentage differential relays
6	R656	Test phase sequence relays
7	R657	Test reverse power relays
8	R658	Test underfrequency relays
9	R659	Test undervoltage relays

0027	Mobility	
1	W919	Assign members to mobility positions
2	W920	Conduct mobility exercise or deployment site surveys
3	W922	Conduct mobility training
4	W925	Construct field fortifications
5	W927	Coordinate mobility exercise or contingency requirements with appropriate agencies
6	W928	Develop mobility inspection checklists
7	W937	Establish mobility workcenters during mobility exercises or deployments
8	W938	Evaluate mobility exercise or deployment after-action report inputs
9	W941	Identify equipment or personnel requirements for mobility exercises or deployments
10	W945	Install secondary distribution centers
11	W951	Maintain high-voltage distribution systems
12	W952	Maintain secondary distribution centers
13	W953	Maintain workcenter pyramid recall plans
14	W954	Monitor mobility deployments kits
15	W966	Participate in mobility exercise planning meetings
16	W967	Perform bomb damage repairs, other than crater repairs
17	W970	Perform damage assessments
18	W971	Perform damage control command and control functions
19	W972	Perform damage control duties, other than command and control functions
20	W974	Perform disease and pestilence countermeasures
21	W977	Perform individual movement techniques for work party security
22	W986	Plot damage assessments
23	W987	Practice base denial techniques
24	W993	Prepare mobility exercise or deployment after-action reports
25	W995	Prepare sites at deployed locations, such as cutting grass or removing snow
26	W996	Prepare workcenter pyramid recall plans
27	W999	Set up site security

0028	Respirators	
1	G246	Maintain portable fuel burning heaters
2	X1004	Annotate master log books to document amount of acid waste generated
3	X1006	Apply reflective tape to equipment
4	X1007	Change air-supplied (in-line) respirator system filters
5	X1008	Change respirator cartridges
6	X1009	Change respirator filters, other than air-supplied system filters
7	X1012	Dispose of contaminated protective clothing
8	X1017	Inspect condition of cartridge respirators
9	X1018	Inspect condition of harnesses
10	X1027	Operate portable heating units
11	X1029	Set up portable heating units
12	X1031	Store respirators

0029	Technical School Training	
1	D99	Administer or score tests
2	D101	Brief unit staff personnel on training programs or matters
3	D105	Conduct resident course classroom training
4	D107	Conduct training conferences or briefings
5	D108	Construct or develop training aids
6	D111	Develop career development courses (CDCs) or curricula materials
7	D112	Develop formal course curricula, plans of instructions (POIs), or specialty training standards (STSs)
8	D113	Develop lesson plans
9	D114	Develop new equipment training programs
10	D116	Establish or maintain study reference files
11	D117	Establish procedures for accountability of students
12	D118	Establish training requirements for instructors
13	D119	Evaluate effectiveness of training programs
14	D120	Evaluate performance of instructors
15	D123	Evaluate training materials or aids
16	D124	Evaluate training methods or techniques
17	D125	Inspect training aids for operation or suitability
18	D130	Prepare lesson plans
19	D131	Prepare specialty training packages (STPs) or quality training packages (QTPs)
20	D132	Prepare student withdrawal or entry forms
21	D133	Procure training aids, space, or equipment
22	D137	Write or revise training materials
23	D138	Write test questions
24	D139	Write training reports

0030	Work Information Management System	
1	C83	Indorse civilian performance appraisals
2	C92	Write civilian performance appraisals
3	E180	Prepare base engineer automated maintenance system (BEAMS) inputs

0030	Work Information Management System (Continued)	
4	E188	Process requests for emergency backup power
5	F205	Access work information management system (WIMS) menus and data screens
6	F206	Analyze WIMS data
7	F207	Change equipment maintenance schedules in WIMS
8	F208	Clear or close out completed job orders in WIMS
9	F209	Create equipment job orders in WIMS
10	F210	Create equipment PMI schedules in WIMS
11	F211	Defer equipment job orders in WIMS
12	F212	Determine WIMS training requirements
13	F213	Establish equipment maintenance schedules in WIMS
14	F214	Implement WIMS workcenter training programs
15	F215	Input supply data in WIMS
16	F216	Load recurring work program (RWP) data in WIMS
17	F217	Perform WIMS inquiries for uncompleted maintenance event listings
18	F218	Schedule equipment maintenance discrepancies in WIMS
19	F219	Schedule man-hour requirements in WIMS
20	F220	Track equipment maintenance discrepancies in WIMS
21	F221	Track WIMS job-following events
22	F222	Update labor man-hours in WIMS
23	F223	Verify accuracy of daily inputs in WIMS

0031	Solid-State Uninterruptible Power Systems	
1	B43	Direct operation or maintenance of uninterruptible power systems (UPSs)
2	S660	Align control circuitry of solid-state uninterruptible power systems (SSUPSs)
3	S663	Conduct SSUPS site surveys
4	S664	Install or remove SSUPSs
5	S669	Isolate malfunctions within SSUPS battery banks
6	S670	Isolate malfunctions within SSUPS control circuits
7	S671	Isolate malfunctions within SSUPS filter bank components
8	S672	Isolate malfunctions within SSUPS inverters
9	S673	Isolate malfunctions within SSUPS parallel cabinets
10	S674	Isolate malfunctions within SSUPS power supplies
11	S675	Isolate malfunctions within SSUPS printed circuit boards
12	S676	Isolate malfunctions within SSUPS rectifier/chargers
13	S677	Isolate malfunctions within SSUPS static switches
14	S678	Perform initial activation of SSUPS battery banks
15	S679	Perform inspections of SSUPS battery banks, other than PMI s
16	S680	Perform parallel operations of SSUPSs
17	S682	Perform periodic maintenance on SSUPSs
18	S683	Perform PMIs of SSUPS battery banks
19	S684	Perform single unit operations of SSUPSs
20	S690	Replace SCRs in SSUPSs
21	S691	Replace SSUPS capacitor bank components
22	S692	Replace SSUPS control circuit components
23	S693	Replace SSUPS filter bank components

0031	Solid-State Uninterruptible Power Systems (Continued)	
24	S694	Replace SSUPS internal circuit breakers
25	S695	Replace SSUPS printed circuit board components
26	S696	Replace SSUPS printed circuit boards
27	S697	Replace SSUPS summing transformers
28	S698	Replace SSUPS switchgear circuit breakers
29	S700	Shut down or start up SSUPs
30	S701	Solder or desolder SSUPS control circuit wiring
31	S702	Test SSUPS batteries
32	S703	Test SSUPSs using load banks
33	S704	Transfer SSUPS bypass to maintenance bypass
34	S705	Transfer maintenance bypass to SSUPS bypass
35	S708	Transfer to SSUPSs, other than bypass

0032	Uninterruptible Power Systems	
1	S661	Calibrate control circuitry of rotary UPSs
2	S662	Clean or burnish rotary UPS control circuit contacts
3	S665	Isolate malfunctions within rotary UPS clutch systems
4	S666	Isolate malfunctions within rotary UPS control cubicles
5	S667	Isolate malfunctions within rotary UPS master control panels
6	S668	Isolate malfunctions within rotary UPS power supplies
7	S681	Perform periodic maintenance on rotary UPSs
8	S685	Perform vibration tests on rotary UPSs
9	S686	Replace rotary UPS clutch system components
10	S687	Replace rotary UPS control circuit components
11	S688	Replace rotary UPS motor generator set bearings
12	S689	Replace rotary UPS switchgear circuit breakers
13	S699	Shut down or start up rotary UPSs
14	S706	Transfer to bypass rotary UPSs
15	S707	Transfer to rotary UPSs, other than bypass

0033	Gas Turbine	
1	J353	Adjust gas turbine engine control circuits
2	J355	Adjust gas turbine generator control circuits
3	J360	Clean gas turbine engine exhaust system components
4	J363	Clean gas turbine engine intake air systems
5	J365	Inspect gas turbine combustor chambers, turbine nozzles, and manifold assemblies
6	J366	Inspect gas turbine engine temperature thermocouples
7	J367	Inspect gas turbine exhaust temperature thermocouples
8	J374	Isolate malfunctions within gas turbine engine control circuits
9	J375	Isolate malfunctions within gas turbine generator set control circuits
10	J382	Replace gas turbine engine control circuit components
11	J383	Replace gas turbine engine exhaust system components

0033	Gas Turbine (Continued)	
12	J385	Replace gas turbine engine fuel nozzles
13	J386	Replace gas turbine engine ignitors
14	J387	Replace gas turbine engine intake air filters

0034	Solar 750kw Gas Turbine	
1	J354	Adjust gas turbine fuel systems cracking pressures
2	J356	Calibrate Solar 750 kw gas turbine control system circuits
3	J357	Calibrate Solar 750 kw gas turbine engine speed monitors
4	J358	Calibrate Solar 750 kw gas turbine exhaust temperature monitors
5	J359	Calibrate Solar 750 kw gas turbine temperature monitors, other than exhaust temperature monitors
6	J362	Clean gas turbine engine ignitors
7	J364	Couple and align gas turbine engines and generators
8	J368	Inspect gas turbine prelube systems
9	J369	Inspect or clean Solar 750 kw gas turbine oil cooler assemblies
10	J370	Inspect or clean Solar 750 kw gas turbine sixth stage bleed air valves
11	J371	Inspect Solar 750 kw gas turbine high-voltage connectors, lightning arresters, and insulators
12	J372	Inspect Solar 750 kw gas turbine output vacuum contactors
13	J376	Lubricate Solar 750 kw gas turbine engine to generator couplings
14	J381	Replace gas turbine combustor components
15	J388	Replace gas turbine engine protective devices
16	J389	Replace gas turbine engine starting system components
17	J390	Replace gas turbine engines
18	J392	Replace gas turbine generator control circuit components
19	J393	Replace gas turbine prelube system filters
20	J394	Test Solar 750 kw gas turbine control system circuits
21	J395	Test Solar 750 kw gas turbine engine speed monitors
22	J396	Test Solar 750 kw gas turbine exhaust temperature monitors
23	J397	Test Solar 750 kw gas turbine temperature monitors, other than exhaust temperature monitors
24	J398	Verify gas turbine control linkage security and adjustments

0035	Tasks Not Clustered	
1	A27	Perform power surveys, other than for civil engineering maintenance, inspection, repair, and training (CEMIRT)
2	A28	Plan layouts of facilities
3	A32	Plan safety or security programs
4	B40	Direct development or maintenance of status indicators, such as boards, graphs, or charts
5	B41	Direct installation or removal of prime or standby power plants or associated equipment
6	B42	Direct maintenance of accessory or auxiliary equipment systems
7	B46	Implement safety or security programs

0035	Tasks Not Clustered (Continued)	
8	B51	Initiate technical order improvement reports
9	B54	Monitor electrical power production contracts
10	B59	Supervise military personnel with AFSCs other than 542X2
11	C62	Complete USAF Graduate Evaluation Program forms or questionnaires
12	C66	Evaluate deficiency, service, or status reports, such as materiel deficiency reports (MDRs)
13	C67	Evaluate engine performance data
14	C68	Evaluate equipment development or modification data
15	C70	Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) Program standards
16	C71	Evaluate layouts of facilities
17	C72	Evaluate maintenance data collection (MDC) reports
18	C75	Evaluate modified or prototype equipment
19	C79	Evaluate safety or security programs
20	C81	Evaluate technical order improvement reports
21	C82	Identify problem areas using deficiency, service, or status reports, such as MDRs
22	C85	Initiate deficiency, service, or status reports, such as MDRs
23	C86	Investigate accidents or incidents
24	C88	Perform quality control inspections of electrical power production equipment
25	C89	Perform quality control maintenance standard evaluations of electrical power production personnel
26	C90	Perform receiving inspections of incoming equipment
27	C91	Review preventive maintenance schedules
28	C94	Write inspection reports
29	C95	Write quality control evaluation reports
30	C98	Write staff studies, surveys, or special reports, other than training reports
31	D106	Conduct safety or security training
32	D128	Plan safety or security training
33	E140	Compile information for records or reports
34	E141	Complete accident or incident report forms
35	E143	Develop equipment checklists
36	E144	Establish publication libraries
37	E145	Establish quality standards for inspections of repaired items or equipment
38	E148	Evaluate changes in equipment allowances or authorizations
39	E149	Evaluate equipment storage procedures
40	E150	Evaluate repair capability lists
41	E153	Initiate accident or incident reports
42	E154	Initiate unsatisfactory or technical order deficiency reports
43	E161	Maintain administrative files
44	E163	Maintain blueprint files
45	E164	Maintain daily status records on support equipment
46	E166	Maintain equipment time change requirements
47	E167	Maintain inspection cards on items requiring periodic inspections
48	E168	Maintain maintenance log books
49	E170	Maintain power plant operating log books
50	E171	Maintain precision measurement equipment (PME) calibration schedules

0035	Tasks Not Clustered (Continued)	
51	E172	Maintain preventive maintenance inspection (PMI) listings
52	E174	Maintain publication libraries or files, other than technical order files
53	E175	Maintain security forms on safes, records, or for rooms
54	E176	Maintain technical order files
55	E179	Participate in time compliance technical order (TCTO) meetings
56	E182	Prepare maintenance schedules
57	E183	Prepare or update wiring diagrams
58	E193	Review deficiency, service, or status reports, such as MDRs
59	E194	Schedule test or support equipment for calibration
60	E195	Store or secure equipment, tools, or supplies
61	E200	Validate TCTOs
62	E201	Verify receipt of TCTO changes
63	E203	Write minutes of briefings or conferences
64	E204	Write reports on emergency power production equipment (EPPE) maintenance
65	G224	Adjust pneumatic control pressure regulators
66	G225	Adjust pneumatic control valves
67	G226	Adjust power generating equipment drive belts
68	G227	Adjust power generating equipment drive chains
69	G228	Change paper in recording devices
70	G229	Clean annunciator alarm system contacts
71	G230	Color code diesel engine systems or accessories
72	G231	Conduct facility surveys
73	G232	Conduct tours of electrical power production facilities
74	G233	Extract power production system performance data from computers
75	G234	Fabricate replacement gaskets
76	G236	Inspect power generating equipment drive chains
77	G237	Install electrical grounds
78	G238	Install generator control wiring
79	G239	Install power distribution boxes
80	G240	Interpret blueprints or mechanical, structural, or construction drawings
81	G243	Maintain engines for water pumping stations
82	G244	Maintain fire protection deluge systems
83	G245	Maintain no-break systems
84	G248	Maintain sump pumps, other than AAS pit sump pumps
85	G249	Modify distribution of electrical circuits
86	G250	Monitor commercial power
87	G251	Monitor power production system computers
88	G252	Operationally check annunciator alarms
89	G253	Overhaul fuel burning heaters, other than portable fuel burning heaters
90	G254	Perform arc or gas welding
91	G257	Perform operator maintenance on vehicles
92	G258	Perform or practice cardiopulmonary resuscitation (CPR)
93	G259	Perform preinstallation surveys for electrical power equipment
94	G260	Perform soft soldering, other than solid-state uninterruptible power systems (SSUPSs)
95	G261	Perform TCTO modifications of power production equipment

0035	Tasks Not Clustered (Continued)	
96	G264	Rebuild pneumatic control pressure regulators
97	G265	Rebuild pneumatic control valves
98	G267	Replace engine preheating devices
99	G268	Replace fuel burning heaters, other than portable fuel burning heaters
100	G269	Replace pneumatic control pressure regulator components
101	G270	Replace pneumatic control pressure regulators
102	G271	Replace pneumatic control valves
103	G272	Replace power generating equipment drive belts
104	G273	Replace power generating equipment drive chains
105	G274	Replace solid-state components, other than SSUPSs
106	G275	Replace wiring, other than electrical wiring in AAS circuits
107	G276	Replenish ink supply in recording devices
108	G278	Service or charge lead-calcium batteries
109	G279	Service or charge nickel-cadmium batteries
110	G280	Set up or remove portable electrical power production equipment fuel supplies at remote locations
111	G281	Set up or remove portable generators at remote locations
112	G282	Test electrical grounds
113	G283	Verify phase rotation of generators
114	H285	Clean automatic transfer panels
115	H287	Inspect automatic transfer panel components
116	H288	Inspect automatic transfer panel wiring and cable connections
117	H292	Perform functional tests of automatic transfer panels
118	I297	Adjust air start system components
119	I298	Adjust engine safety circuits or protective devices
120	I313	Inspect engine safety circuits or protective devices
121	I317	Isolate malfunctions within air start systems
122	I318	Isolate malfunctions within electric start systems
123	I319	Isolate malfunctions within engine safety circuits or protective devices
124	I320	Isolate malfunctions within gasoline engine ignition systems
125	I329	Replace air start system components
126	I336	Replace electric start system components
127	I337	Replace engine safety circuits or protective devices
128	I338	Replace engine seals or gaskets
129	I339	Replace ignition system components
130	I349	Test engine safety circuits or protective devices
131	I351	Time ignition systems
132	I352	Tune up gasoline engines
133	J361	Clean gas turbine engine heat recovery system components
134	J373	Install or remove Solar 750 kw gas turbine mobile fuel system bladders
135	J377	Patch Solar 750 kw gas turbine mobile fuel system bladders
136	J378	Perform postoperational inspections of gas turbine engines
137	J379	Perform preoperational inspections of gas turbine engines
138	J380	Refuel Solar 750 kw gas turbine mobile fuel system bladder s
139	J384	Replace gas turbine engine fuel clusters
140	J391	Replace gas turbine gear drive assemblies

0035	Tasks Not Clustered (Continued)	
141	K399	Adjust air compressor relief valves
142	K400	Adjust battery chargers
143	K401	Adjust centrifuges
144	K402	Adjust voltage regulators
145	K403	Adjust waste heat recovery equipment
146	K405	Clean waste heat recovery equipment
147	K406	Convert centrifuges from clarifiers to separators or from separators to clarifiers
148	K408	Inspect or clean air compressor coolers
149	K410	Inspect or clean battery chargers
150	K411	Inspect or clean centrifuges
151	K412	Inspect or clean chemical pot feeders
152	K414	Inspect or clean programmable controller components
153	K416	Isolate malfunctions within battery chargers
154	K417	Isolate malfunctions within programmable controllers
155	K418	Isolate malfunctions within voltage regulator circuits
156	K420	Maintain water softeners
157	K421	Program programmable controllers
158	K422	Replace air compressor components, other than relief valve s
159	K424	Replace air compressor relief valves
160	K425	Replace air compressors
161	K426	Replace battery charger components or units
162	K427	Replace battery-charging generators
163	K428	Replace battery-charging regulators
164	K429	Replace centrifuge parts
165	K430	Replace electric motor controls
166	K431	Replace electric motors
167	K432	Replace load bank components
168	K433	Replace load banks
169	K434	Replace programmable controller components
170	K435	Replace voltage regulator components
171	K436	Replace voltage regulators, other than magnetic amplifier or solid-state voltage regulators
172	K437	Replace waste heat recovery equipment components
173	L438	Adjust oil pressure relief valves
174	L441	Evaluate lube oil analysis reports
175	L442	Field test lube oil
176	L445	Inspect or clean crankcase vent systems
177	L450	Isolate malfunctions within lubricating oil systems
178	L451	Isolate malfunctions within oil pressure switches
179	L453	Package lube oil samples for testing
180	L454	Perform tests of lube oil, other than field tests
181	L456	Replace lube oil heat exchangers
182	L457	Replace lube oil preheaters
183	L458	Replace lube oil pumps
184	L459	Replace oil transfer pump parts
185	M460	Adjust engine carburetors

186	M462	Adjust fuel manifold pressure
187	M464	Balance cylinder loads
188	M465	Connect auxiliary fuel sources
189	M466	Drain fuel tanks
190	M467	Drain water from fuel system components
191	M468	Evaluate fuel oil analysis reports
192	M469	Inspect or clean engine carburetors
193	M471	Inspect or clean fuel tanks
194	M472	Inspect or clean fuel transfer pumps
195	M476	Isolate malfunctions within distributor-type fuel systems
196	M477	Isolate malfunctions within gasoline engine fuel systems
197	M478	Isolate malfunctions within individual fuel systems
198	M479	Isolate malfunctions within pressure time (PT) fuel system s
199	M480	Isolate malfunctions within unit injector fuel systems
200	M482	Overhaul hydraulic-type fuel injectors
201	M483	Package fuel oil samples for testing
202	M484	Paint fuel tanks
203	M486	Rebuild engine carburetors
204	M487	Replace distributor-type fuel pumps
205	M488	Replace engine carburetors
206	M491	Replace fuel system manifolds
207	M495	Replace hand-priming pumps
208	M496	Replace hydraulic-type fuel injectors
209	M497	Replace individual cylinder fuel injection pump components
210	M499	Replace individual fuel pumps
211	M500	Replace mechanical fuel injectors
212	M501	Replace PT fuel pumps
213	M502	Replace PT fuel solenoid valves
214	M503	Replace PT gear pumps
215	M504	Replace unit injector-type fuel system components
216	M505	Test fuel for water content
217	M507	Time distributor-type fuel pumps
218	M508	Time individual fuel pumps
219	M509	Time unit injector-type fuel injectors
220	M510	Transfer fuel from storage tanks to day tanks
221	N515	Adjust ebullient cooling systems
222	N517	Drain, flush, or clean cooling systems
223	N518	Inspect cooling system components
224	N519	Inspect or clean ebullient cooling systems
225	N520	Install electric coolant heaters
226	N521	Isolate malfunctions within cooling systems
227	N523	Operationally check open cooling systems, such as cooling towers
228	N527	Replace cooling system thermostats
229	N528	Replace ebullient cooling system components
230	N531	Test engine coolants
231	O533	Adjust governor friction couplings

0035	Tasks Not Clustered (Continued)	
232	O538	Clean governor oil filters or strainers
233	O540	Inspect governors
234	O541	Inspect or clean governor oil coolers
235	O542	Isolate malfunctions within advanced governors
236	O545	Isolate malfunctions within governor dump valves
237	O546	Perform base-level testing of governors
238	O548	Perform initial start and calibration procedures for control governors with electric actuators
239	O550	Replace governor oil filters or strainers
240	O553	Test overspeed trip devices
241	P554	Adjust intake and exhaust valves
242	P555	Adjust linkages of emergency air shutoffs
243	P556	Change oil in air intake filters or cleaners
244	P557	Clean thermocouples
245	P559	Inspect exhaust system components
246	P560	Inspect lobe-type blowers
247	P561	Inspect or clean air intake filters or cleaners
248	P563	Inspect or clean diesel engine turbochargers
249	P566	Replace air intake filters or cleaners
250	P568	Replace diesel engine turbochargers
251	P569	Replace exhaust system components
252	P570	Replace intake or exhaust system intercoolers
253	P571	Replace lobe-type blowers
254	P572	Replace pyrometers
255	P573	Replace thermocouples
256	P575	Verify blower lobe clearances
257	Q576	Adjust alternator air gaps
258	Q577	Adjust brush holders
259	Q578	Adjust exciter brush spring tensions
260	Q579	Align exciters with alternators
261	Q580	Dress alternator sliprings
262	Q581	Dress exciter commutators
263	Q582	Flash exciter fields
264	Q583	Inspect or clean alternator bearings
265	Q584	Inspect or clean alternator sliprings
266	Q585	Inspect or clean brush holders
267	Q586	Inspect or clean brushes
268	Q587	Inspect or clean exciter commutators
269	Q588	Inspect, clean, or dry alternator windings
270	Q589	Inspect, clean, or dry exciter windings
271	Q590	Insulate alternator output connections
272	Q591	Isolate causes of brush sparking or arcing malfunctions
273	Q594	Lubricate alternator bearings
274	Q595	Lubricate exciter bearings
275	Q596	Measure out-of-round on alternator sliprings
276	Q597	Measure out-of-round on exciter commutators

277	Q598	Replace alternator bearings
278	Q601	Replace brushes or brush holders
279	Q602	Replace exciter bearings
280	Q604	Seat brushes
281	Q609	Undercut exciter commutators
282	R610	Adjust automatic synchronization equipment
283	R612	Adjust dynamic breaking circuits of circuit breakers
284	R614	Adjust hydraulic circuit breakers
285	R616	Establish operating range for protective relays
286	R617	Inspect or clean circuit breakers
287	R624	Isolate malfunctions within voltage regulators, other than solid-state
288	R625	Perform internal adjustments on solid-state voltage regulators
289	R626	Perform internal adjustments on voltage regulators, other than solid-state
290	R631	Perform periodic maintenance on switchgear battery banks
291	R633	Perform periodic maintenance on voltage regulators, other than solid-state
292	R634	Replace arc-chutes
293	R640	Replace instrument meters
294	R641	Replace magnetic amplifier voltage regulators
295	R644	Replace switchgear battery banks
296	R646	Replace switchgear power cables
297	R647	Replace switchgear surge protectors
298	R648	Replace switching solenoids
299	R649	Rewire switchgear
300	R650	Take or record switchgear indicator readings
301	T710	Assemble or disassemble generator sets
302	T712	Determine fuel requirements for generator set operations
303	T716	Monitor or adjust switchgear controls during operation
304	T717	Monitor or adjust switchgear devices during operation
305	T718	Parallel generator sets automatically
306	T719	Parallel generator sets manually
307	T720	Parallel generator sets with commercial power
308	T721	Perform generator set emergency shutdown procedures
309	T729	Replace generator set cables
310	T731	Switch generator set operations from single bus to split bus or from split bus to single bus
311	U734	Bar-over and lubricate stored real property electrical power production equipment
312	U735	Brief civil engineering maintenance inspection, repair, and training (CEMIRT) activities or actions
313	U736	Calibrate circuit breaker overcurrent elements
314	U737	Calibrate protective relays for minimum pickup
315	U738	Calibrate protective relays for time delays
316	U739	Conduct CEMIRT analyses of real property installed equipment (RPIE) power plant equipment status or condition
317	U740	Conduct CEMIRT evaluations of mission power requirements for power plants
318	U741	Construct, reconstruct, or modify power plant foundations
319	U742	Coordinate power plant problems with appropriate agencies

0035	Tasks Not Clustered (Continued)	
320	U743	Coordinate requirements for power plant rehabilitation projects with AFCESA and requesting agencies
321	U744	Develop power plant redesign or construction information for appropriate agencies
322	U745	Install or remove alternators for power plants
323	U746	Install or remove electrical distribution systems for power plants
324	U748	Install or remove exciters for power plants
325	U749	Install or remove storage tanks for power plants
326	U750	Install or remove waste heat recovery equipment
327	U751	Overhaul distributor-type injection pumps
328	U752	Overhaul individual fuel injection pumps
329	U753	Overhaul mechanical fuel injectors
330	U754	Overhaul PT fuel injection pumps
331	U755	Overhaul real property electrical power production equipment for hold
332	U756	Overhaul unit injector-type fuel injectors
333	U758	Perform CEMIRT annual inspections of standby power plants
334	U759	Perform depot-level rebuilding of power plant fuel system components
335	U761	Perform depot-level rebuilding of power plant speed-sensing or load-sensing devices
336	U762	Perform depot-level rebuilding of power plant turbocharger s
337	U763	Perform run-in acceptance tests for newly installed power plants
338	U765	Plan power plant rehabilitation projects
339	U766	Prepare reports on CEMIRT activities or actions
340	U767	Preserve stored real property electrical power production equipment for hold
341	U769	Remove power plant foundations
342	U770	Replace hydraulic governor components
343	U771	Replace supercharger bearings
344	U772	Replace supercharger seals
345	U774	Test and calibrate fuel pumps
346	U775	Test and calibrate governors
347	V783	Adjust 61QSII net system control valve linkages
348	V818	Install 61QSII net systems
349	V830	Isolate malfunctions within AAS net system control panels
350	V888	Replace AAS net or webbing system compressor switches
351	V889	Replace AAS net or webbing system electrical components
352	V912	Replace 61QSII net system stanchion components
353	W921	Conduct mobility surveillance visits
354	W923	Construct concrete slab runway repairs
355	W926	Construct fire dikes
356	W931	Erect B-1 republic steel revetments for aircraft parking
357	W934	Erect concrete portable revetments for aircraft parking
358	W949	Load plan aircraft for deployments
359	W980	Perform scab silikal repairs
360	W981	Perform shelter team manager duties
361	W982	Perform shelter team member duties
362	W984	Perform small crater crushed stone repairs
363	W997	Process classified materials
364	W1002	Tow AM-2 matting for rapid runway repairs